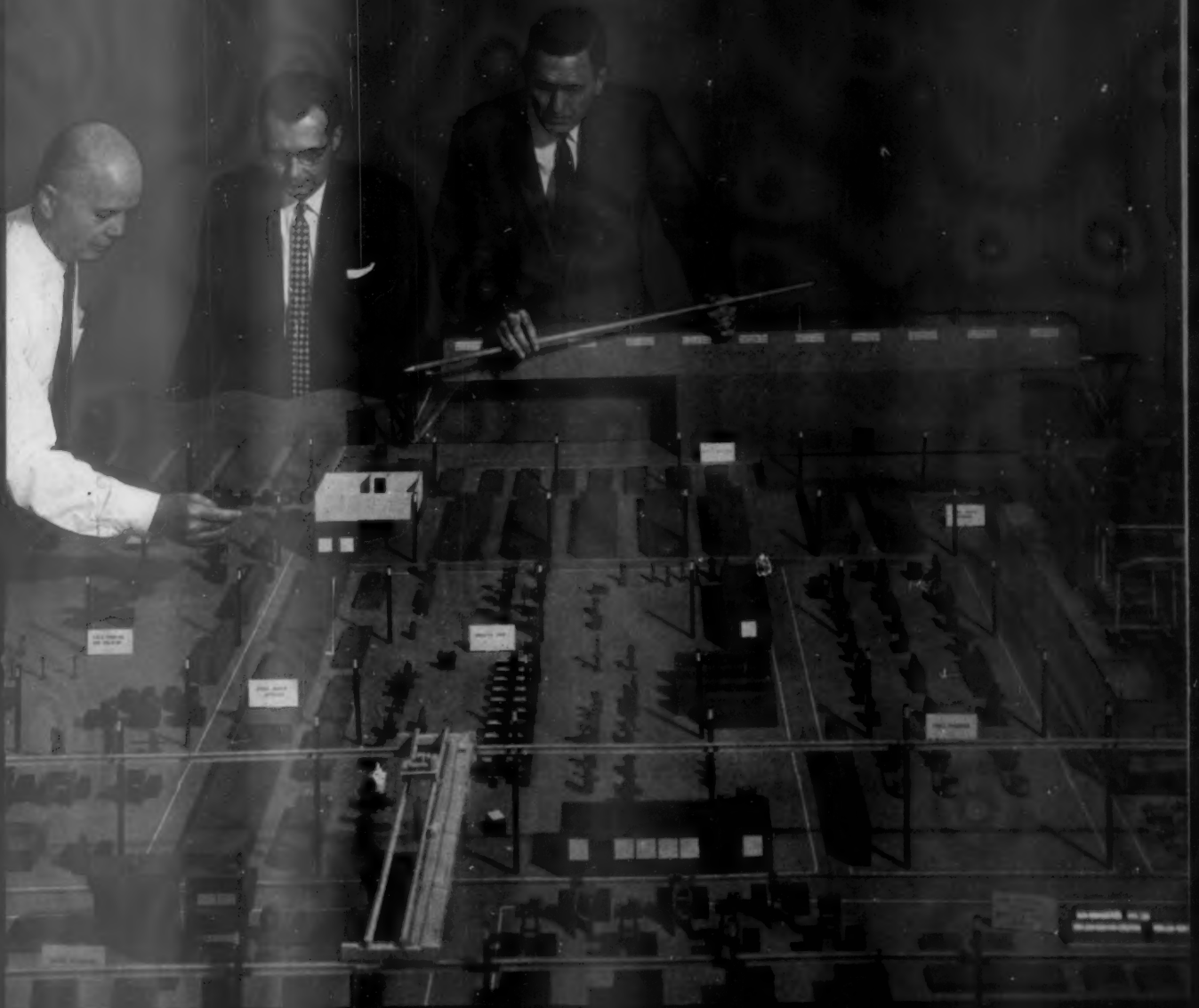


AUGUST 1959

With Feature Section

THE JOURNAL  
of the American Society of  
Safety Engineers

*National*  
**SAFETY  
NEWS**



**PLANNING A TOP PLANT**



## ***OK, SIR ISAAC, WE DID IT!***

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# National SAFETY NEWS

A NATIONAL SAFETY COUNCIL PUBLICATION

**VOL. 80, NO. 2**

**AUGUST 1959**

## EDITORIAL

4 Unwritten Books

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## NATIONAL SAFETY COUNCIL

Chartered by the Congress of the  
United States



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## COVER

Planning a "Top Plant." Representatives of Cutler-Hammer and the Austin Company visualize the new plant with three-dimensional models. Layout of machinery, handling material facilities, and employee services can be worked out in advance of construction operations.

37,500 copies of this issue were printed

National Safety News, August, 1959

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## UNWRITTEN BOOKS

MANY A MAN has dreamed about writing a book that would tell the world all about his particular field of activity—all in one compact volume. Some safety men have had this ambition.

Of course, there are some good books about industrial safety. The National Safety Council's *Manual of Accident Prevention for Industrial Operations*, soon to appear in a revised edition, has become an indispensable part of the safety man's library. Excellent books and pamphlets on specific phases of accident prevention have been published by the U. S. Department of Labor, insurance companies, and other organizations.

The basic principles and techniques of safety have been admirably presented by Heinrich and others. But no single book has yet wrapped up the whole subject with a pat solution for every problem and every situation. No doubt many have tried and finally tossed their manuscripts in the fire.

In this month's installment of *The Diary*, Bill Andrews' unnamed fictional safety engineer dedicates his vacation to writing the book the safety world had been waiting for. It will cover all those perennial problems—how to deal with unsympathetic management, apathetic foremen, and workers who seem impervious to instruction.

It can't be said that our Safety Engineer doesn't try. He spends weary hours at the typewriter, resisting the call of biting fish and other distractions of the great outdoors.

But like many another writer—professional as well as amateur—words fail him when he tries to express the ideas he has been mulling over for years. The great thoughts that had been racing through his mind are just a lot of dreary clichés on paper. Sadly he realizes how little he really knows about his subject.

So, vacation's end finds him in a dark mood of failure and frustration. But his understanding wife, Sue, comes to the aid of his sagging morale.

"The trouble isn't with you," she said. "You wanted to write a book that is almost impossible to write. If it could be done at all, it would have to be done by a great literary artist who is also a master sociologist, psychologist, and safety engineer. And you're only one of those four things."

Perhaps you are wondering how Sue came to have so much inside knowledge of industrial safety. In case you tuned in late on *The Diary*, which has been running for more than seven years, she was the plant nurse before our Safety Engineer married her.

But why not read the whole story?

## NATIONAL SAFETY COUNCIL OFFICERS, 1958-59



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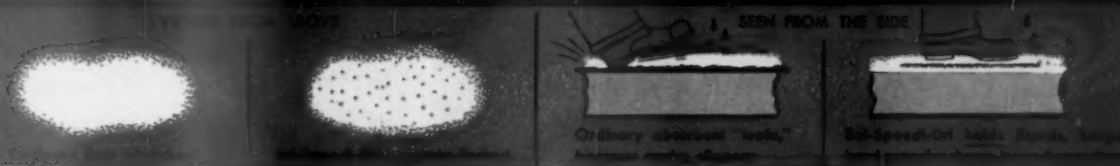
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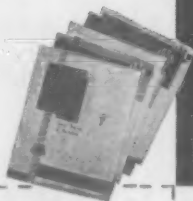
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(Fiction)

## THE DIARY OF A SAFETY ENGINEER

*Our Safety Engineer louses up a vacation trying to write a book, but the great thoughts circulating through his mind become tired platitudes on paper. He learns something from the effort, though*

# THE GREAT BOOK

By **BILL ANDREWS**

August 2, 1959

THE DOCTOR checked me over late in June and told the front office that any man with a heart history carrying my responsibilities deserved an extra-long vacation. That was how we got a whole five weeks at our cottage by the lake.

I fully intended to double-cross the doctor, my overly-solicitous wife, and the company by working during my vacation.

Specifically, I was going to write a book.

The idea for this book has been in my mind for a long time. It would be the first book of its kind—a brief, practical, down-to-earth book about how to be a safety man in industry.

It wouldn't, as I mapped it out in my mind, even attempt to cover technical subjects, except that it would have a section devoted to how to find technical answers. It wouldn't be a textbook which would help an engineering student pass an examination. Rather, it would discuss the way the field of safety work looks and feels and tastes. It would discuss the care and feeding of employers, boards of directors, stubborn superintendents, wishy-washy foremen, recalcitrant workmen, eager enthusiasts, and green-

horn safety men. It would give a lot of attention to budgets, but from a political rather than an analytical point of view.

It would have some sage advice on the personal life of the safety man, his habits, health, vices, and virtues.

As I say, nobody has written such a book yet, and I assumed it was because nobody had thought of writing it.

With a whole month ahead of me at the cottage, with the kids busy and happy at outdoor play, I figured I ought to be able to spend a week relaxing and getting my ideas in order. Then, refreshed and eager, I would plunge into the writing. Not being a professional, and being rather slow at a typewriter, I assumed I wouldn't write more than about 500 words an hour. But if I wrote 500 words an hour, six hours a day, for four five-day weeks (after all, I ought to give the family some attention), I would have 60,000 words written at the end of the vacation, and that ought to be, I thought, pretty nearly the whole book.

So we went out to the cottage, and I had a very pleasant week boating, fishing, and sunning myself. Evenings I worked at my out-

line, and I finished it. I saw then that it would take a little more than 60,000 words to say all that I wanted to say—after all, this was summarizing a long career's accumulated knowledge. Maybe the 60,000 words would only be two-thirds of what I would write, but if so, I could finish it up evenings at home, and maybe get it done by about mid-October.

So the next Monday, I sent the family off on a picnic, pulled out my portable typewriter, set out a stack of white paper, and went to work.

That first day I finished the introduction. It turned out to be only about 1,500 words, and it would still need some polishing, but I liked it. I told why I was writing the book and what I hoped the reader would get out of it.

Tuesday was rainy, and what with one thing and another (noisy children, a leaky roof, and some trouble with the pump) I never did get to writing.

So the book proper began to be written on Wednesday. I typed Chapter I, "The Safety Man and His Mission," and then I stopped to think out the opening words. It took quite a bit of thinking and it

—To page 122

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# Safety Information?

## You'll find it at the Congress

**More sessions, more participants, and a look at safety in the next decade are putting Congress plans in orbit**

THE 47TH NATIONAL Safety Congress and Exposition, with its forward-looking theme—*Safety in the Sixties*—will feature 900 program participants in 300 sessions this year.

Slated for Chicago, October 19-23, the Congress will have 183 commercial exhibits (plus 5 educational displays) and 248 booths (plus 5 educational areas). Estimated Congress attendance will be about 12,000 persons.

This month, presses are to print about 5,000 copies of *Safety in the Sixties*, a booklet for distribution to Congress speakers and conference officials. Purpose of this 150-page publication: to offer guidance in developing programs around safety advances anticipated in the next 10 years.

The American Society of Safety Engineers will present 15 sessions. These are to include small boat safety, air pollution, safe materials handling, radiation hazards, handling and storage of liquefied petroleum gas, an off-the-job session, remarks on visual aids, fleet problems, industrial medical suggestions, lessons learned from fires, and chem-

ical safety in laboratories in small industries. Three programs on accident-prevention fundamentals—planning, selling, and effectively continuing a safety program—are scheduled.

**Early morning sessions, Oct. 20-23** from 8:30 to 9:15 a.m. in the second floor Grand Ballroom of the Conrad Hilton Hotel, will be presented by Arthur Secord, director of community service and professor of speech at Brooklyn College, Brooklyn, N. Y.

The Tuesday morning session, "How to Tell What You Know," will involve teaching and communicating skills and knowledge to others. Wednesday's program, "The Gentle Art of Saying 'No'," will suggest ways in which to gain cooperation in an effective safety program.

Thursday's early morning get-together, "Discipline—Its Use and Abuse," analyzes discipline in terms of punishment, teaching, developing habits of order and obedience, and bettering morale in an organization.

Prof. Secord's Friday and final

session, "Painting Haystacks," will offer ideas on the importance of living and working so hope will always have more to offer than memory in determining deeper satisfactions.

The Congress banquet is slated for Tuesday, October 20, at 6:30 p.m. in the Conrad Hilton's second floor Grand Ballroom. It will be informal. The speaker is to be announced. Assignments to main floor and balcony tables will be made in the order in which reservations are received. The Congress party, scheduled for 8 to 12 p.m. Thursday, October 22, will be held in the same room as the banquet.

**A cross-section of programs** shows that P. E. Olson, industrial relations manager for the Waukesha, Wis., Works of International Harvester Company, will speak to the Automotive and Machine Shop Section on "A World's Safety Record and How We Did It."

"Engineering for Injury and Accident Prevention" will be presented to the Mining Section by H. M. Jackson, manager of the industrial health program for Johns-Manville Corporation, New York City.

Jack Stroube, assistant to the manager of employee activities and safety, R. R. Donnelley & Sons Company, Chicago, will speak on "Fire Prevention in the Printing Industry" to the Printing and Publishing Section.

In the Rubber Section schedule, "Dermatoses as Related to the Rubber Industry," is to be discussed by Dr. W. A. McCausland, medical director, B. F. Goodrich Footwear & Flooring Company, division of The B. F. Goodrich Company, Watertown, Mass.

Members of the Textile Section will hear O. H. Bynum, safety supervisor of E. I. du Pont de Nemours & Co., Inc., Camden, S. C., comment on "Gimmicks to Promote Off-the-Job Safety."

A round-table discussion will be held as a Glass and Ceramics Section program. Led by William H. Koppert, safety supervisor, Owens-Corning Fiberglas Corporation, Newark, Ohio, the round-table will involve "Safety Problems in the Glass and Ceramics Industry."

---

**What:** 47th National Safety Congress and Exposition.

**When:** October 19-23, 1959.

**Where:** Chicago.

**Who:** 900 program participants in 300 sessions.

**Exhibits, Booths:** 183 commercial exhibits (plus 5 educational displays);  
248 booths (plus 5 educational areas).

**Theme:** SAFETY IN THE SIXTIES.

**Attendance:** (Estimated) 12,000.

**Special events:** Congress banquet—Oct. 20, Tues., 6:30 p.m.,

Conrad Hilton Grand Ballroom; Congress party,

Oct. 22, Thurs., 8-12 p.m., Conrad Hilton Grand Ballroom.

---





## **HUSKY WIRE ROPE SLINGS MOVE 239-TON STATOR**

Here's a job calling for plenty of "lift." It's a 239-ton stator for a high pressure hydrogen inner-cooled generator, photographed as it was being raised about 40 feet at the Eddystone Generating Station of Philadelphia Electric Company. The "muscle" was supplied by four Bethlehem No. 172-7 x 37 grommet slings, which then held the stator suspended until a beam-type floor was erected beneath.

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## JET AGE PRAYER

SLOW ME DOWN, LORD! Ease the pounding of my heart by the quieting of my mind. Steady my hurried pace with the vision of the eternal reach of time.

Give me, amid the confusion of my day, the calmness of the everlasting hills. Break the tensions of my nerves and muscles with the soothing music of the singing streams that live in my memory.

Teach me the art of taking minute vacations—of slowing down to look at a flower, to chat with a friend, to pat a dog, to read a few lines from a good book. Let me look upward into the branches of the towering oak and know that it grew slowly and well.

Slow me down, Lord, and inspire me to send my roots deep into the soil of life's enduring values.

—Author, unfortunately, unknown. Saw it in *The Pick-Up*, published by United Parcel Service.

## MIXED BLESSING

INSTEAD of being blessed with total recall, I think I should prefer total dismissal. This would be the faculty of blocking out past successes, failures, mishaps, and glories.

Of all the burdens a man can carry, the heaviest is a memory of what might have been, or what was. To listen to others recite their past is an ordeal from which I ever pray to be spared.—*William Feather*.

★ ★ ★

Philosophy triumphs easily over past and future ills, but present ills are apt to triumph over philosophy.—*La Rochefoucauld*.

## A LESSER EVIL?

ADDICTION TO NICOTINE, a widespread weakness accompanied by a serious fire hazard and possible ingestion of carcinogenic tars, is one of industry's serious problems. On many operations, smoking on the job can't be permitted, so employees feeling the craving spend too much time in the john or sneak off to some obscure corner for a furtive fag among combustibles.

An enterprising tobacco salesman had a bright idea. At a box factory he arranged with the shop foreman and union representatives to provide regular supplies of chewing tobacco and snuff. Now, the men can enjoy their usual solace at work without danger of burning down the plant and their jobs.

Reports claim the company has gained more than a hundred working hours a month, since the men switched to smokeless tobacco. They no longer take so many washroom smoking breaks.

Next, the salesman called on a cannery, with equally satisfactory results in sales for his company and increased production for the customer.

Remembering my first (and last) chew, I'm a bit skeptical about this quick and easy change of vices.

I'm wondering, too, whether the salesman would have had as much luck in a plant with a working force largely female.

And would statisticians tally cases of seasickness among beginners as lost-time cases to be charged against the plant's record?

★ ★ ★

No man is happy without a delusion of some kind. Delusions are as necessary to our happiness as reality.—*Bovee*.

## SUBURBANITIS

WE SUBURBAN HOUSEHOLDERS, it seems, are subject to a variety of perils unknown to pampered apartment dwellers. And the man-eating power mower and the buzz saw in the do-it-yourself workshop aren't the only menaces in the suburban home. Some of our wholesome avocations are fraught with dire risks.

That's what a chiropractor told fellow members of his craft at a recent convention in Chicago. These ailments plague city dwellers moving to the suburbs and indulging in unfamiliar hobbies with too much enthusiasm.

"Green thumb thigh," is his name for a complicated ailment associated with digging and hoeing in the garden.

"Wheelbarrow back," from too much do-it-yourself with a wheelbarrow.

"Patio posture," from lifting flagstones for patios and moving heavy lawn furniture.

"Tractor back," a compression of the spine produced by riding power lawn mowers.

And then, Doc told his audience, with a straight face, if the new suburbanite has survived wheelbarrow back and tractor back while building his own swimming pool, he faces "diving board disc," an ailment of aging athletes.

It makes me shudder to think of all the risks I've been taking during 25 years of suburban life. Of course, many a weekend I've gone to bed with an assortment of aching muscles, but with fresh air and clean living I've been able to escape the more unpleasant symptoms.

To avoid these breakdowns of the skeletal musculature system, Doc warns us, all new activities should be undertaken in moderation.

No room for argument there.

*Carman Fish*



During our periodic fire drills at Gillette, a Gamewell fire alarm system has proved itself much faster, much more trouble-free than the one it replaced. We appreciate the excellent protective value of the Gamewell system and

your aid in engineering it to cover all buildings in our plant area.

*Howard P. Spaulding*  
Chief Electrical Engineer  
Gillette Safety Razor Co.  
Gillette Park, Boston, Mass.

## At Gillette it's GAMEWELL ... industrial leader installs the leading fire protection system

The Gamewell system endorsed by Engineer Howard Spaulding was carefully designed to protect all lives and property in Gillette's 11 buildings — headquarters of the internationally known manufacturer of razors, blades and other products.

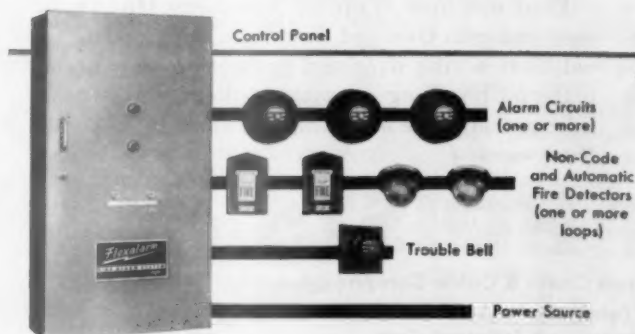
A Gamewell system can be engineered to safeguard your own business from fire losses — including not only irreplaceable human lives but buildings and equipment that can't be renewed at their original costs. It will warn all personnel, signal your local fire department and, if required, will include fire

detection units that activate the entire system — instantly — automatically.

Ask your Consulting Engineer about these advantages. Also, a Gamewell Fire Protection Engineer will be glad to give you details about installation requirements, performance and price. Send the coupon below for this service and/or a Gamewell technical manual — without obligation.



FIRST... WHEN SECONDS COUNT!



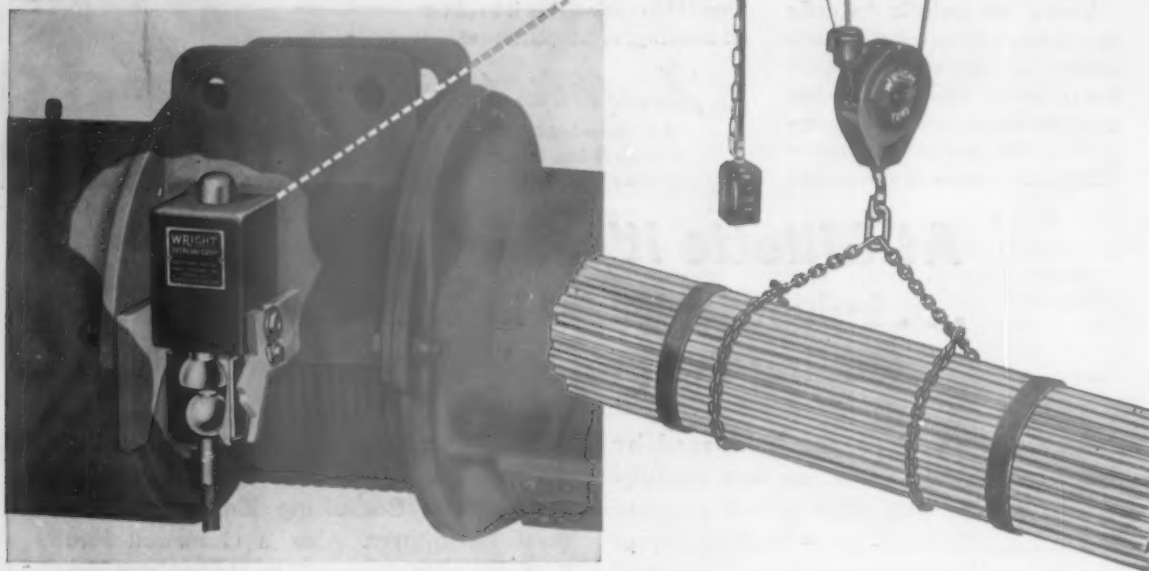
**GAMEWELL CO., Dept. 6C**  
**Newton Upper Falls 64, Mass.**

- ☐ Have a Gamewell Fire Protection Engineer call
- ☐ Send me a Gamewell Fire Alarm System Planning Guide

Name.....  
Title.....  
Firm.....  
Address.....  
City..... Zone..... State.....

# New from Wright!

**Built-In Overload  
Protection for Operator,  
Load and Hoist  
with the New Wright  
Overload Cutoff\***



• Now, for the first time on any electric hoist, you can have safe, sure mechanical overload protection as a built-in feature with the **WRIGHT Overload Cutoff**. Designed and built to fit any new **WRIGHT Speedway Electric Hoist**, the Overload Cutoff unit you see pictured above is a compact, integral part of the hoist frame itself. As a result, it becomes a functional part of the hoist *at no sacrifice in headroom*. The **WRIGHT Overload Cutoff** is simple in design and should give dependable, trouble-free operation during the entire life of the hoist under normal operating conditions. Calibrated and sealed at the factory for the user's protection, the unit takes rugged abuse up

to the critical point of overload—then instantaneously “breaks” the raising circuit of the hoist. This allows the load to be safely lowered to the floor and unhooked. Once this is done, the raising circuit of the hoist is again automatically restored.

The **WRIGHT Overload Cutoff** is available now as standard equipment on all new **WRIGHT Frame 2 & 3 Speedway Electric Hoists**, and as optional equipment on new **Frame 1 & 1½** models.

Find out how **WRIGHT Speedway Hoists** equipped with Overload Cutoff can bring practical, fast-acting overload protection to your material handling operations. For complete information, write our York, Pa., office.

\*Patent applied for



## WRIGHT HOISTS

Wright Hoist Division • American Chain & Cable Company, Inc.

York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York,  
Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

Circle Item No. 9—Reader Service Card



National Safety News, August, 1959





# SMALL BUSINESS and ASSOCIATIONS

By A. M. Baltzer and John T. Curry

Small Business Program Staff, National Safety Council

## Associations Help Sections

In at least three instances associations have taken official action which has helped our industrial sections.

The *Arkansas-Missouri Ginners Association* has named an official representative to our Textile Section's executive committee. A new division of the section is planned for the cotton ginners.

The *Associated Cooperage Industries of America* also took official action to name a chairman and three committeemen to the new Cooperage Division of our Wood Products Section. The committee will meet at the semi-annual conventions of the association and also with the Wood Products Section's executive committee.

Also, the *American Bottlers of Carbonated Beverages* were instrumental in setting up the new Soft Drinks Division of the Food and Beverage Section. The A.B.C.B. safety committee chairman is also chairman of the new division.

In several other cases, associations have taken action to help sections improve Congress programs, to co-sponsor special publications, and to gather special statistics. The merger will strengthen both groups.

## Safety Round Tables

June 18 saw the first of a proposed series of informal round table discussions for associations with going safety programs. At a meeting co-sponsored by the Washington Trade Association Executives, a number of Washington associations discussed specific problems and exchanged ideas for new activities.

A similar round table session is again planned for the National Safety Congress. And as the need develops, we shall take the round

table idea on the road to other areas where association executives are concentrated.

They have expressed a definite interest in such informal discussions, which will be helpful to men who normally are not able to attend the Congress.

## Cool, Man, Cool!

The Safety Committee of the National Association of Refrigerated Warehouses reported in June that 1958 was the safest year since the start of the NARW program in 1951. Injury frequency was cut 40 per cent; injury severity reduced 80 per cent!



Translate direct and indirect accident costs into lost profits, as did this prominent member of the Milk Industry Foundation, and you have an equally good reason for safety.

Whether they result in spilled milk, damaged equipment, increased maintenance or excessive first-aid expense, accidents reduce Net Profits. This is the story that sells associations, and the hundreds of thousands of employers they represent, on the economic benefits of safety. Try it and see!

In 1952 only 13 plants completed a no-injury year; in 1958, 63 operations succeeded in doing so. The 14-page NARW Safety Survey Report also contains data on types of injuries, injury rates by regions and plant departments and a coded list of 150 reporting plants.

## Boost Training

Several associations have recognized the importance of safety training for supervisors. In every case, one or more safety sessions were included in training courses for supervisors.

More than 400 supervisors attend a series of five one-day institutes of the American Pulpwood Association. Members of the Chicago Chapter ASSE use National Safety Council materials and films in the continuous series of courses sponsored by the National Metal Trades Association. The Texas Ready-Mixed Concrete Association and other associations have included safety as a part of courses administered by Texas A&M College. Others, such as the American Gas Association conduct full-scale safety courses for managers and supervisors. Industrial sections of the Council are in an ideal position to encourage associations to make safety a routine part of training courses and to participate in them.

## Distribute NSC Material

More associations are taking advantage of their membership service by ordering and distributing Council materials to their members.

For example: The Alabama Liquefied Petroleum Gas Association distributed three sets of 150 posters each on vacation safety. The Institute of Scrap Iron and Steel sent 50 copies of our new Data Sheet *Demolition Balls* to key officers and members.



**FROM** a cluttered, noisy plant in a congested area, Cutler-Hammer moved its low-voltage distribution equipment manufacturing facilities to this modern one-story plant on a 95-acre tract near Lincoln, Ill.



**CLEANLINESS** is encouraged by facilities like these. Clear, glazed ceramic tile walls, non-slip quarry tile floors and sloping-top lockers make maintenance easier. Fluorescent fixtures provide 20 fc. of light.

## Panorama of a Top Plant

"A MODEL of clean efficiency" is *Factory Magazine's* capsule description of the new plant of Cutler Hammer, Inc., at Lincoln, Ill.

The plant, designed and built by the Austin Company, of Cleveland, was selected by *Factory* as one of the 10 top plants of 1959. To qualify for this distinction, a plant must be more than an efficient manufacturing unit; it must also have a pleasing appearance and provide safe, hygienic and pleasant working conditions.

From an old building hemmed in by the sidewalks of New York, Cutler-Hammer's Low Voltage Distribution Apparatus Plant was uprooted and moved to the Illinois prairie, where there is plenty of room to work and grow.

The old plant in the Bronx was cramped, cluttered and noisy. Handling and transportation were difficult.

The Lincoln plant, planned as one big tool for manufacturing, is spaciouly laid out. Each production

step is coordinated with the whole, including the two auxiliary operations of painting and plating.

Seen from Highway 66, which by-passes Lincoln, the plant's trim modern lines stand out against a 95-acre rural setting. But the highway traveler doesn't see the spacious and attractive interior.

High ceilings, aisles averaging 12 ft. in width and ample manufactur-

ing areas with room for expansion are conspicuous features. Total floor space is 313,000 sq. ft. Work in process flows through the plant with a minimum of noise and apparent effort.

Tectum panels, used on the side-walls above the windows and on the ceilings, combine the functions of insulation and noise reduction with a good-looking surface.



**FIRST-AID** department has asphalt tile floors, glazed ceramic tile walls and built-in wooden cabinets. Room is air conditioned and 50 fc. of light are provided by troffer type fluorescent fixtures recessed in suspended acoustical ceiling.



**PLATING** solutions and chemical wastes are fed into this equipment in basement space beneath plating room, where they are neutralized before disposal into main sanitary sewer. This is the only basement area.



**MATERIALS HANDLING** is aided by this 520-ft. crane-way through which all steel passes en route to processing and assembly departments. Heavy dies are stored in special racks and moved by lift trucks or crane.

### **This plant's an efficient manufacturing unit and a good place to work. Factory magazine rates it among the 10 top plants of 1959**

Heat reducing glass is used in all windows.

The site had an important incidental advantage. Many plants in less favored locations have to haul in large quantities of topsoil for landscaping. At Lincoln, there was plenty of it right on the spot. In fact, the rich Illinois loam was so deep that foundations had to be supported on piles 35 feet deep.

**Materials handling.** Conspicuous among the built-in advantages of the Lincoln plant are the ample and flexible facilities for materials handling. Movement is quick and easy with a craneway 520 ft. long and 80 ft. wide. Steel can be unloaded from truck or rail car by crane or fork truck. This equipment also handles the flow of in-process parts.

Scrap from the presses is re-

moved, as it accumulates. Fork trucks with hoppers carry it to gondolas on the indoor railroad spur.

**Ventilation.** The plating department, centrally located, is the main exhaust for the entire plant. At the sources of noxious fumes, air is exhausted at rates up to 250 cfm. Total air exhausted through nine separate systems comes to about 100,000 cfm. Polyester fiber glass is used for hoods and exhaust ducts. Air conditioning has been installed in the office, laboratory, cafeteria, and the circuit-breaker assembly.

**Waste disposal.** Corrosive wastes flow to the basement through polyvinyl chloride pipe and fittings. These wastes are treated in the basement before being discharged into the sanitary sewer.

A practical housekeeping idea was developed in the plating department. To clean incoming tote

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**UNIT HEATERS** are installed at all railroad and truck doors which operate automatically when door is open, providing hot-air curtain to prevent building heat loss. Electrically-operated steel rolling doors are also equipped with weather closures and safety bottom bars.

**Here's a 10-step program that  
will help any plant beginning  
(or maintaining) a**

## **POWER PRESS SAFETY PROGRAM**

**By H. B. DUFFUS**

Administrator, Accident Prevention,  
Westinghouse Electric Corporation,  
Pittsburgh, Pa. Condensed from a  
paper presented at a joint meeting of  
the Automotive and Machine Shop  
and Power Press and Forging Sec-  
tions, 46th National Safety Congress.

**WITH SOME 255,000** power  
presses in operation—some of them  
dating back to the 1890's—it seems  
rather ironic that we should still  
feel the need to discuss "Beginning

a Power Press Guarding Program."  
But this subject of press guarding  
is a persistent perennial.

Why the need for repetition? I  
believe the answer, in a negative  
sense, is found in the high percent-  
age of amputations in power press  
operations. Regardless of the time,  
effort, and dollars spent on safe-  
guarding, punch presses are still  
high on the list of sources of finger,  
hand, and arm amputations.

Back of the need for this annual  
discussion, in a positive sense, is

### **FUNCTIONS OF THE *Safety Observer***

- SET AN EXAMPLE BY WORKING SAFELY.
- WHEN UNSAFE PRACTICES ARE OBSERVED, DISCUSS THEM WITH THE EMPLOYEE OR EMPLOYEES.
- DISCUSS IMPROVEMENTS IN SAFE PRACTICES WITH THE FOREMAN OR SAFETY SUPERVISOR.
- WHEN UNSAFE CONDITIONS ARE OBSERVED, DISCUSS THEM WITH THE FOREMAN OR SAFETY SUPERVISOR.
- ATTEND THE SAFETY OBSERVER TRAINING SESSION.

**SAFETY OBSERVERS** provide em-  
ployee participation in the safety pro-  
gram. They receive a five-session  
training course and are qualified to  
spot right and wrong methods.

the fact that press builders are con-  
tinually striving to improve the  
safety of operations. Guard manu-  
facturers are competing in bringing  
out devices that will make opera-  
tions safer. The result has been con-  
tinuing improvement in press safety.

To take full advantage of these  
devices, we must know all about  
them. We must relate them to our  
specific operations and select those  
best suited for our particular needs.  
This can best be accomplished at  
meetings where we can get unbiased  
opinion of new equipment.

A punch press guarding program  
doesn't necessarily mean that first  
thought should be given to the type  
of guard—far from it! You have to  
guard a press at the point of opera-  
tion to compensate for the inability  
of others to make the operation in-  
herently safe. That's a rather blunt  
statement, and it has made me  
somewhat unpopular with certain  
persons.

An inherently safe press opera-  
tion is one in which there is no ex-  
posure to the operator at point of  
operation, because there is a limited  
opening, or because other means do  
not permit or require the operator  
to reach into the point of opera-  
tion.

Conversely, guarding at the point



**FABRICATING** and assembling die guards for presses at Westinghouse.





**BARRIER GUARDS** are required for all flat stock or first operations where ram travel exceeds  $\frac{3}{8}$  in.

of operation is needed because the designer of the product, the tool designer of that particular piece of the product, or the tool purchaser was unable to provide an operation that was inherently safe or could have been made safe.

By point of operation I mean that area of the machine where stock is actually positioned during shearing, punching, forming, or assembling.

As stated earlier, your program doesn't start with a guard. To narrow the job down to press guarding *per se* is like running around putting out fires, ignoring their basic causes. Eventually the job gets out of hand and you have a conflagration—or, in the case of press operation, an amputation.

## Ten Steps

First, make an over-all appraisal of the complete punch press operation. Then you are ready to relate your program to what we call the 10 basic steps to a complete power press safety program. These steps, as developed at Westinghouse, are:

### 1. Establish Policy

Have a clean-cut policy statement compiled by your top-level safety committee and issued over the sig-

nature of top-level management. Here is an example from Westinghouse:

"It is recommended company policy that the operator of a punch press not be permitted to place his hands in the point of operation while the press is running."

To implement this, there are four general requirements that cover the many phases of our press operations:

- Limited ram or die travel, where possible.
- Barrier guards for all flat stock or first operations, where the ram travel exceeds  $\frac{3}{8}$  in.
- Two-hand electrical control devices and mechanical feeding, or hand-tool feeding, for all forming or bending operations that require nesting, and where barrier guards are not practical.
- Dual protection, consisting of a two-hand electrical control device and either a pull-out device or an electric gate device, shall be used on those limited operations that require hand feeding. This form of safeguarding should be limited to press operations requiring occasional use of inactive dies or where the cost of mechanical feeding, or hand-tool feeding of large dies is economically impractical.

Make the policy statement as short and concise as possible. If there is need for expansion, do it by safe practices and procedures.

The policy should not be directed primarily to the press operator. It

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**DUAL PROTECTION.** Two-hand electrical device with electric gate is used on limited operations that require hand feeding. This form of guarding is effective only on presses with friction clutch which permits ram to be stopped at any point during the stroke.



# Noise Is More Than A Nuisance

It can be a menace to employees' hearing and safety and to the company's public relations

**AUDIOMETRIC** tests are an important part of pre-placement examinations. Prefabricated testing rooms permit examinations under controlled conditions.

**NOISE** may be defined as unwanted sound. That definition, though not scientific, is adequate for most purposes. Sound, in turn, is an audible alternation in air pressure, also the auditory sensation caused by such pressure variations on the ear. Whether this audible alternation in air pressure can be classed as noise depends on the auditory mechanism receiving these alterations.

Noise may be bothersome for many reasons. It may interfere with our ability to carry on speech communication; it may disturb our ability to concentrate, or it may startle us.

It has long been known that extended exposure to industrial noise affects working ability. In a frequently quoted study, a large company compared the efficiency and general performance of an office staff for one year after the installation of sound-absorptive materials on the walls and ceilings. Over-all

noise reduction due to the sound-absorptive treatment was only minimal, but the reports of improved performance were remarkable.

For example, calculating machine operators' errors were reduced 52 per cent; typists' errors were lowered 29 per cent; health was improved 37 per cent; and employee turnover was reduced 47 per cent.

We can probably work with normal efficiency in the presence of noise, but we experience greater fatigue. We are also aware of annoying factors, and they may be particularly disturbing or inappropriate at that time.

It has also long been known that extended exposure to industrial noise will also produce hearing loss. Accounts of noise-induced hearing loss date back as far as 1804, when it was reported in England that blacksmiths as a group had impaired hearing. The modern blacksmith—the drop forge operator—is still the subject of concern in hearing conservation.

**Industry's noise problem.** Today, industry recognizes that:

1. If employees suffer "occupational noise-induced hearing loss," the company may be burdened with heavy damage suits.
2. Hearing loss impairs a worker's

performance and morale. He may become prone to accidents. The investment in making him a skilled worker may be jeopardized.

3. Personal considerations are involved. No mechanical or electronic device can fully compensate for loss of ability to hear. That loss is likely to affect virtually every phase of the individual's home and social life.

**Legal aspects.** An interpretation of the New York law, in effect, puts the burden of proof on the defendant in cases of occupational noise-induced hearing loss.

Recently it was computed that the average compromise settlement of several hundred cases in one state was \$2,250 in workmen's compensation insurance costs.

In Wisconsin and New York, occupational noise-induced hearing loss has been recognized, defined and made compensable by legislative action.

Two of the three generally recognized types of occupational hearing loss are not particularly new problems. One results from direct trauma to the ear or head—injuries resulting from blows, foreign objects, burns, etc. The other is acoustic trauma—an immediate hearing injury produced by one or a few exposures to intense sounds, such as blast or explosions.

By **ELLIS E. SINGER**

Clinical audiologist, manager, Medical Department, Industrial Acoustics Company, New York

Both types are sudden and accidental. Neither physical accidents nor sudden intense sounds could be considered part of *normal* working conditions.

The third kind—industrial noise-induced hearing loss—is in the spotlight. It results from the kind of noise that necessarily accompanies some jobs.

Dr. Meyer Fox of Milwaukee, a prominent industrial otologist, points out: "Industrial noise-induced hearing loss describes the cumulative loss of hearing of the nerve type that develops over a period of months or years of employment in hazardous noise levels."

Note these two points:

1. Occupational noise-induced hearing loss is caused by the noisy environment in which the worker must perform his job.

2. The hearing loss is the result not of a single accident but of exposure over a long period.

Normal-hearing persons respond to frequencies from about 20 cycles per second to 20,000 cycles per second. The loudest sounds to which the ear responds are more than 10 million times the sound pressure of the least audible signal. Thus, the ear functions on the wide ranges of both loudness levels and frequencies.

Further, the ear responds differently to different frequencies at different levels of loudness. At high loudness levels the ear responds more or less uniformly to all frequencies, but as the loudness levels decrease, the ear becomes increasingly insensitive to the very low frequencies or the very high ones.

The extreme sound pressure range of hearing, more than 10 million to one, results in the use of unwieldy numbers and measurements. Consequently, acoustic measurement of sound pressure is defined by a logarithmic unit, the decibel, abbreviated db. This reference level is normally the faintest sound discernable to a person of particularly acute hearing.

The two pertinent measurements of noise are loudness and pitch. Noise is made up of a mixture of pitches. Generally speaking, the higher pitches tend to be more disturbing psychologically to the individual.

Loudness, as mentioned before, is measured in decibels. To the person of normal hearing, 0 db. is the threshold of hearing. A suburban street on a quiet evening has a noise level of some 30 db. Normal conversation level is 60 db. Inside an express suburban train the noise level is about 100 db. Noise louder than 100 db. may cause pain.

A rule of thumb is that noise levels less than 85 db. are nothing to worry about. Between 85 and 95 db. highly susceptible ears may be harmed after a short period. Susceptible individuals working in noise levels greater than 85 db. may suffer permanent damage after long exposure, and at more than 130 db., workers may suffer permanent hearing damage after even short exposures.

**Typical noise levels.** Operators of various types of machines may be exposed to the following levels (db.):

Automatic lathe .....	80
Automatic screw machine .....	90
Ram type turret lathe .....	100
Pneumatic castings chipper .....	110
Pneumatic tank chipper .....	120
Pneumatic riveting hammer (on steel tank) .....	130

Entire areas may have high noise levels. Here are a few examples:

Machine shop with lathes, presses and related equipment	80-90
Area near automatic screw machines .....	90-100
Near electric furnace .....	100-110
Around shakeouts .....	110-120

**A conservation program.** Basically, a hearing conservation program involves these steps:

1. Determine whether the noise of your operation is a potential hearing hazard.
2. If so, do all that is possible to eliminate or minimize the noise.
3. If the problem still exists, protect your workers by making them wear noise-reducing devices, such as ear plugs and/or muffs.
4. Make a complete hearing test for each new worker part of your standard hiring procedure. Use the results of the tests as a factor in determining whether the new employee could handle jobs in noisy surroundings.
5. Make periodic rechecks of all workers exposed to excessive noise to catch early cases of hearing loss. At times, the hearing loss is reversible when adequate precautions are taken. These precautions may include the prescribing of ear plugs or muffs, or both. Reassignment to a less noisy environment may be necessary.

Do you have a potential hearing hazard in your plant?

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**ISOLATION**, where practicable, is an efficient means of cutting down exposure to noise. This enclosure houses a turbine generator.





"IF SAFETY were the sole objective of the company, we would shut down operations and immediately be safe . . . and as promptly be out of business," George F. Getty, II, reminds the conference.

## Background of a Practical Safety Conference

**WOGA demonstrates what an industry association can do for its membership**

MORE THAN 850 line supervisors of the Southern California Oil and Gas Industry accepted the hard-hitting, practical safety philosophy of George F. Getty II, president of Tidewater Oil Company, speaking before the Western Oil and Gas Association's Southern California Oil Industry Safety Conference at Long Beach, April 20-21.

"We do not feel—or want our managers to feel—that safety is the company's primary objective," said Mr. Getty. "It is not. If safety were the sole objective, we would shut down all operations and immediately be perfectly safe—and as promptly be out of business."

"We believe that every manager should adopt the attitude that the objective of the company—and of his particular unit—is optimum job

performance. And optimum job performance can be achieved only with effective accident control. Only under such conditions can there be ideal use of human and material resources.

"When we decided that we could not prevent accidents just by posters and literature and meetings and inspections, we chose an entirely new course. We placed the responsibility for safety where it belongs—with the line manager. We made it clear that the full and definite responsibility for the safety of personnel and equipment in any unit is vested directly in the manager or supervisor of that unit."

Not every supervisor in the audience saw clearly the need for a clean-cut distinction between management's full acceptance of responsibility for safety and the concept that the safety department has strictly an advisory function.

Some few still expect to solve their problems through the medium of the old *deus ex machina*—the safety professional—the man who would in his almighty omniscience shut everything down and reorganize the whole process.

Finding the easy way out was not the objective of the conference. The speakers discussed 32 areas of practical day-to-day problems of safety in every phase of the oil industry. Speakers included line supervisors, managers, and a few engineers who drew on their own experience in dealing with men and their jobs, rather than from high-sounding theories. A significant feature was the use of an evaluation questionnaire which all members of the audience were asked to fill in at the end of the sessions.

**Conference Facts.** Managements of the member companies of WOGA underwrite the conferences for approximately \$30-40,000 in salaries and conference expenses. This amount may vary, depending on the size of attendance and the location of each conference. Management also showed its intense interest by encouraging supervisors to participate and by its own presence and active participation.

Work sessions began at 8:50 a.m. and ended at 4:15 p.m. Some sessions were repeated in the afternoon to allow each man to partici-

### By M. J. NAUGHTEN

Director of Safety, Kaiser Steel Corporation, Fontana, Calif. In the preparation of this article, the author acknowledges the invaluable assistance of William E. Hinchliff, secretary of the WOGA Safety Committee, and T. Allen Lynch, assistant director of public relations, Kaiser Steel Corporation.



pate in two of them. The program was the same on both days to give all supervisors an opportunity to attend.

Participants in previous years have indicated their preference to forego dinner meetings at the end of the strenuous day. Many persons elected to return to the relaxation of their homes. The hospitality of vendors was ruled out after the first conference in 1953.

**Selection of Speakers.** The underlying principle of the conference is to give foremen, supervisors, and plant managers an opportunity to meet together to improve their accident prevention performance. Consequently, panel speakers have been chosen from line foremen, supervisors, and technicians close to operating conditions. The professional safety man attended in the role of an observer or to assist in use of visual aids or help in the incidental problems of running a conference.

When the safety conference started in 1953, recruiting of speakers was a serious question. First, the top executives of the various member oil companies were sent a letter asking for names of supervisors who would participate in a panel on a safety topic of their own choice. An outline of the proposed conference was enclosed.

The response was amazingly gratifying. However, there were the doubters who looked on the project as a foolhardy venture and offered plausible arguments to support their position.

The success of the first conference largely silenced the skeptics. The first panels did themselves proud. In fact, they did so well that the association board of directors decided to give the affair a two-year further trial. By that time it was well established as a great potential for the exchange of ideas among the members of the oil industry—each with its own peculiar approach to a safety program.

In the years after 1953 speakers were sought from volunteers who were asked to enter their names on a sheet titled, "Your Evaluation of the Oil Industry Conference." On this sheet was the question, "What problem do you suggest for analysis by each of these sections at your next conference? Would you be

## YOUR EVALUATION OF THE OIL INDUSTRY SAFETY CONFERENCE

**IMPORTANT NOTE:** Improvement of these conferences from year to year, and their value in helping line management strengthen safety in petroleum industry operations, depends on the honest opinions and suggestions of participants. Please take time today to evaluate the general sessions and each section in which you took part. Unless your company has specified some other kind of report, fill this out before you leave the conference; give one copy to your afternoon section chairman; route one copy to your division manager tomorrow; route third copy to your company's safety department. State your views frankly and plainly. Pull no punches. Signature optional. Thanks for your cooperation.

... WOGA SAFETY COMMITTEE

What did you get from the morning general session that you can use?

What did you get from the luncheon general session that you can use?

What two sections did you attend? Please comment in each column below.

Morning:

Afternoon:

Which of the subjects discussed provided the most material that you can use to strengthen safety in the operations you supervise?

Did you contribute to the discussion by asking a question, citing a problem, or describing a good alternative method? Please describe briefly.

What problems do you suggest for analysis by each of these sections at your next conference? (Would you be willing to give a talk on the subject? If so, please state your name and company address.)

What improvements would you suggest in each of these sections?

Any other comments as to what you liked or disliked about the conference?

**VALUABLE IDEAS** for future conferences were obtained from these evaluation forms. Both management and supervision gave their views.

willing to give a talk on the subject? If so, please, state your name and company address."

The WOGA safety committee and local steering groups are also on the alert for discussion participants who revealed potentialities for the next year's list of speakers. Between conferences names of supervisors

demonstrating a flair for speaking in their off-the-job activities reached members of the committee. Finally, company executives wholeheartedly cooperated not only in assenting to the request for a named foreman, but also in furnishing names of other good prospects.

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# news briefs

## **Eat right—work right**

Improper diet was found to be related to accident frequency in a large textile plant. All accidents requiring first aid were included, regardless of severity. The investigation showed that three fourths of the accidents happened to workers who skipped breakfast. Most injuries happened at ten o'clock in the morning.

## **Smoke ordinance revised**

The model smoke ordinance published by the ASME is being modernized. Sections defining limitations on smoke and fly-ash are to be brought up to date.

## **Noise control**

There are five ways to control noise: 1. Buy quiet machinery. 2. Use double-wall shielding. 3. Install absorptive devices between the noise and nearby workers. 4. Use absorptive materials within the noise source location itself. 5. Work as far away from the noise as possible.

## **Radioantelopeity**

Employees at the Atomic Reactor Testing labs in Idaho Fall, Idaho have been warned about encounters with antelope. The speedy animals race the workers' cars, then cross the road. AEC hasn't lost any radiation workers, but nine antelope have seriously misjudged their distance.

## **Lung decontamination**

Procedures using inert dust stimulate the lungs to expel fine particulate matter. Larger particles were found to be expelled sooner than the smaller.

## **Zip fuels toxic**

A better understanding of the toxicity of boron hydride fuels has resulted from studies recently completed. The central nervous system, heart, blood vessels, and metabolism are involved. While small doses cause depression, larger ones result

in tremors and convulsions. Some effects of the poisoning have been reversed, but others still resist control.

## **Waterborne false alarms**

Citizens who spotted flames on vessels in the lower bay of New York Harbor promptly called the Coast Guard and municipal fire departments. What they had seen was wood trash fires on special steel barges.

## **Nuclear medicine unit**

The effects of nuclear energy on public health will be studied in a new section set up at the University of Chicago School of Medicine. Workers in the new unit will study increasing public radiation exposure, its causes and consequences, medicolegal considerations involving compensation, and the effects of fear built up by constant reminders of nuclear hazards.

## **Democracy is safety**

At Ryan Aeronautical Company everyone has his say in the monthly safety meetings. Supervisors and workers bat it back and forth about accident causes and preventives, hazardous conditions, good housekeeping, and work practice improvements. It's impossible to say whether the "town hall" format is responsible for Ryan's record, but their frequency and severity rates are among the lowest in the industry.

## **Tipsy teetotaler**

A New York man was getting into trouble with his wife and his boss over habitual drunkenness. What puzzled him was that he wasn't drinking anything to give him a buzz. When he appealed to the health officials, they learned he worked with trichloroethylene. Proper ventilation sobered him up and preserved his domestic tranquility.

# Principles and Techniques of RESCUE BREATHING

DURING the early years of World War II there was a popular story of a first-aid team putting on a demonstration of efficient patient handling. The local banker, quite patriotically, loaned his services as the victim and in no time flat was encased in mummy fashion from top to toe.

The village grocer donated the use of his delivery truck to serve as an ambulance. The "mummy" was deftly lifted in by litter, but, unfortunately, the top of his head was projecting slightly. With machine precision the back doors of the truck were slammed. The victim suffered a major fractured skull, requiring brain surgery and six months' hospitalization.

The dangers of a tourniquet in the hands of a layman are well known. The ineffectiveness of many attempts at rescue breathing should in turn be emphasized.

In smoke inhalation cases, the patient should be carried to a protected area away from the fumes. This is basic common sense, but after removal, common sense is even more necessary. If the patient is choking from fumes or even unconscious but still breathing, he should be left alone, as far as treatment is concerned, until seen by a physician.

If the patient is not breathing audibly, or is cyanotic (blue-tinged skin), the method of rescue breathing now accepted as the most efficient means of artificial respiration should be used.

Drowning and shock from electricity cases present, in a measure, the same problem to the layman. Review of the literature has firmly established the time lag of 15 minutes as being the maximum period between breathing stoppage and

**By N. GILLMOR LONG, M.D.**

Medical Director, Kemper Insurance Companies, Chicago; Member, Medical Advisory Committee, National Safety Council.



**AIRWAYS**, available commercially in several models, overcome some of the objections to mouth-to-mouth resuscitation. (Globe Industries, Inc.)

beginning of rescue breathing. No instances of revival were found to refute this.

In the operating room, cardiac massage has to be done by five minutes' time to insure the saving of life. The danger of lack of oxygen supply to the delicate nerve cells of the brain spells permanent damage if some artificial source is not provided.

In these days of canned beer, barrels are not always found conveniently near the site of a drowning casualty. Well-regulated and supervised beach areas present no problem as resuscitators with trained personnel are always on hand. Unfortunately, drownings occur in bathtubs and in the shallow backyard swimming pools so popular throughout the country.

What to do with a victim of electrical shock, drowning, or smoke exposure? Assuming the patient has been pulled out of the water, freed from electrical contacts, or carried from a burning building;

there is the common basic problem of restoration of breathing. If the patient is breathing, coughing, or choking from fumes, the best treatment is watchful expectancy only (question of anticipating sudden shock as seen with deep seated third degree electrical burns).

In all cases, a physician should be summoned. It must be remembered that all lungs have a certain amount of subatmospheric residual air—1,000 to 1,500 cc.—present in the lungs after death. It is the contained oxygen in the residual air that is fed to the delicate brain cell tissues and keeps alive the respiratory center of the brain. This probably explains why certain patients live as long as 15 minutes after cessation of breathing.

For this reason, any patient recently rescued from exposure, and not showing signs of breathing or heart action, should be given artificial respiration until a physician has declared the patient dead. It

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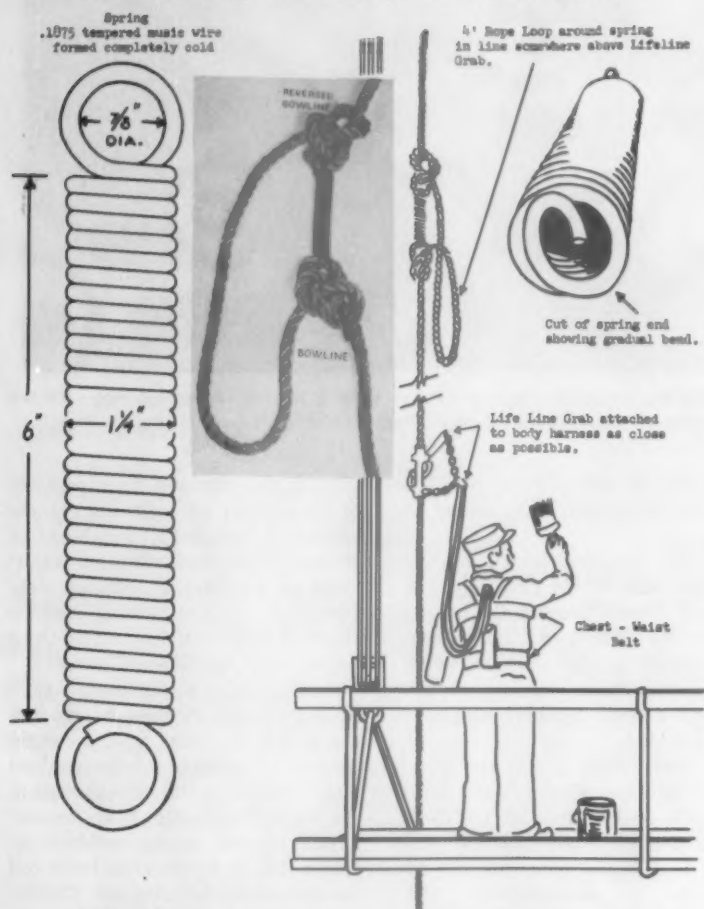
# IDEAS THAT WORKED

## Devices and Ideas to Help Your Safety Program

By Arthur S. Kelly, Industrial Department, NSC

### Safety plus for scaffold workers

#### STANDARD K.P. LIFE LINE HOOKUP FOR SCAFFOLD WORK



HERE is an idea which has already saved two men from injury when they lost their footing on scaffolds.

A standard safety belt of the chest-waist type and a lifeline grab are considered adequate to save a falling scaffold worker when properly worn. However, Eastman Kodak Company added a snubbing feature which protects the falling worker from serious internal injury from the jolt received when falling.

An expandable spring, formed completely cold from 0.1875-in. tempered music wire is mounted in the lifeline with a 4-ft. loop of rope around it, as shown in the sketch. In the event of a fall, the spring stretches to a considerable length, cushioning the snubbing action of the lifeline grab device.

Francis W. Wischmeyer, supervisor, Industrial Safety Department, Eastman Kodak Co., Rochester, N. Y., submitted this idea. Mr. Wischmeyer pointed out that the development of the spring had been the joint effort on the part of many people in their plant. He suggested we give credit to the plant rather than to any individual.

#### THE WINNER IN JUNE

Idea's June winner was "Toe boards." Submitted by David B. Renegar, safety supervisor, The Chemstrand Corp., Decatur, Ala., the idea was for low protective rails on the edge of a loading dock. The removable steel channels prevent trucks from running off the dock.

#### SIX-MONTH WINNER

- The Chicago works of Bethlehem Steel Company won the six-month prize with their idea, "A Cabled Warning." This device, so often found in gasoline service stations, has saved the firm from many an accident at blind corners in plant yards. The series of cables is relatively easy to install.



## Emergency stop switch for car puller

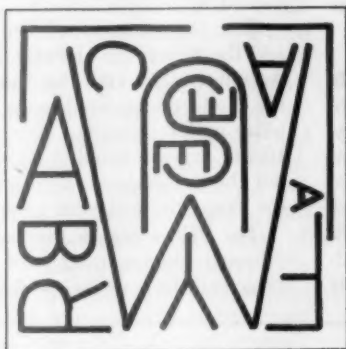


POWERED car pullers are tough stuff. The idea presented here is an emergency stopping device for use in case the operator gets too close to the cable and is caught. If he should be in this predicament he can disconnect the power immediately by touching the metal disk shown in the lower center of the illustration. This disk, painted orange, works on a spring which holds it in position. When touched by the operator it activates a mercury switch cutting off the power.

Submitted by William G. Smith, safety director, The Nestle Company, Inc., Fulton, N. Y.

## BURNS SAFETY TANGLES

Unscramble the letters and write the answer in the blanks below



CLUE: The ABC of Safety

ANSWER: (3 words)

Be sure to mail in the enclosed envelope no later than 12 noon on November 24th.

Your clock number: \_\_\_\_\_

JABEZ BURNS & SONS INC.

## Crazy mixed-up safety sayings

THIS contest is fashioned on the order of Tangle Towns. There were 10 puzzles in the complete set.

One copy was mailed to each employee in the shop each week until all 10 had been mailed. The original participation in this contest was 54 per cent of the employees. All employees didn't go the full distance; only 21 did. However, 46 of the 79 employees went half the distance or better. In order to prevent collusion the sheets were mailed to the employee on Thursday with a return envelope requiring the solution to be mailed back before noon on the following Monday. Here are the results: Six employees got every one right and each man received a \$5.00 bill for his efforts. Five employees came close to being right and each of these received a \$2.00 bill. The remaining 10 who went the distance but fell short on correct answers received the silver dollar.

Not all the puzzles were as easy as the one presented here although each is similar in the number of words concerned. Just in case you haven't time to dig this out, the correct answer is, "Always Be Careful."

This idea was conceived and submitted by J. F. Biehl, secretary-terasurer, Jabez Burns and Sons, Inc., New York City.



# WIRE FROM WASHINGTON

By **HARRY N. ROSENFELD**, Washington Counsel, National Safety Council

This report is an information service. Publication does not imply National Safety Council approval of or opposition to any legislation mentioned

CONGRESSIONAL CONSIDERATION of various safety measures has reached the crucial committee stage.

**Industrial safety.** A subcommittee of the Senate Committee on Interstate and Foreign Commerce held hearings on S. 1964 (Magnuson) which would require certain rail carriers to make reports to the ICC with respect to certain accidents (see "Wire," July 1959).

The measure was opposed by the Interstate Commerce Commission and by railroad spokesmen, but approved by railroad unions. The ICC testified before the Senate that the bill would add to the clerical burdens of the railroads and expand the ICC's workload "without a compensating increase in the results achieved." H.R. 7633 (Staggers) is a similar bill on the House side.

The U. S. Bureau of Labor Statistics announced that the injury frequency rate in manufacturing was 4 per cent higher for the first 3 months of 1959 than for the first quarter of 1958. The figure (10.8 disabling injuries per million man-hours worked) was well below any other previous first-quarter rate. The higher rates were attributed mainly to increased industrial activity and the hiring of new workers.

Despite the increase in the overall injury rate for manufacturing, 31 out of the 136 industry classifications recorded decreases of one frequency point or more in 1959's first quarter, compared with the same period in 1958.

The greatest decrease was for cane sugar, from 17.1 to 11.9. The greatest increase was for wooden containers, up 11.0 points. Honors

for the lowest-rate industries during the first quarter of 1959 were shared by synthetic fibers and explosives, each with a rate of 1.7.

The International Labor Conference approved a recommendation that occupational health services be organized by employers or be attached to an outside body, either as a separate service within a single undertaking. The recommendation specifies that the role of occupational health services should be essentially preventive and that such services should not involve expense to the worker.

**Traffic safety.** Congressman Roberts, chairman of the House Subcommittee on Traffic and Safety, told the American Medical Association: "We must have improved safety standards in the automobiles we drive," and that he expects H.R. 1341, his bill for standards for federal vehicles, to make the safety

standards regular equipment on all cars.

Mr. Roberts' new Subcommittee on Health and Safety held its first traffic safety hearings of the session. For three days, industry, government and safety witnesses testified on five bills, H.R. 722 (Bennett) [requires governors and other such devices], H.R. 880 (Multer) [requires certificate of fitness by manufacturers of cars as to inspection and good operating condition], H.R. 883 (Multer) [requires manufacturer to seal speedometer], H.R. 1341 (Roberts) [safety standards for federal vehicles], and H.R. 1346 (Schenck) [control of air pollution caused by auto exhausts].

The Departments of Commerce and the Army, the General Services Administration and the Bureau of the Budget supported none of the bills under hearing. The Public Health Service stated that there had not been adequate appropriations for research in traffic safety.

The PHS representative said that "through better design of motor vehicles," the severity and frequency

## THE MONTH IN WASHINGTON

- Subcommittee of Senate Committee on Interstate and Foreign Commerce holds hearings on bill requiring rail carriers to report accidents to ICC. Railroads, ICC oppose; unions approve.
- International Labor Conference approves recommendation that occupational health services be organized by employers, or by outside body, as preventive service free to workers.
- Federal Aviation Agency issues notices of proposed rule-making proceedings to impose 60-year age limit on airline pilots, and a 55-year age limit on turbo-jet pilots.
- Coast Guard issues amended regulations on transportation or storage of explosives or other dangerous cargoes on vessels, and regulations on lifeboats and life rafts.

of traffic accidents could be reduced. He reported that from July 1957 through June 1958 "almost 5 million persons were injured in motor vehicle accidents" and "over 32 million person-days of work and 2 million person-days of school were lost."

The American Medical Association's representative, Dr. Horace Campbell, called traffic accidents "the nation's No. 1 health problem," and said the time had come for federal regulation. He urged that seat belts and crash padding become standard equipment on cars. The American Medical Association proposed consideration of at least 20 specified design features for safety.

The auto industry testified, through the industry-wide Engineering Advisory Committee of the Automobile Manufacturing Association, in opposition to the enactment of any of the bills being considered.

"It would be both impractical and unnecessary," said their spokesman, "for the Secretary of Commerce or any other federal authority to be directed to assume the responsibility for prescribing automobile design and production standards," even for federally-owned vehicles.

Instead, the industry urged: "strengthening the cooperation between the automobile industry and public bodies to develop new knowledge in every phase of safety"; "intensifying educational efforts to convince car owners of the value of safety features and practices"; "a mutual approach to safety regulations by way of performance levels rather than physical requirements"; and "an even greater [federal] part in supporting and coordinating" research on the human aspects of driving, and on highway design and traffic engineering.

The American Association of Motor Vehicle Administrators opposed the five bills and any "federal intervention at this time."

Maj. Gen. George C. Stewart expressed the support of the National Safety Council for H.R. 1341 (federal safety standards for federally-owned or operated vehicles).

Such requirement, said Gen. Stewart, would not only reduce accidents and their severity, but would also "serve as a large scale

demonstration of the effectiveness of safety devices and would bring about an increasing acceptance, even demand, by the public that such devices be included in yearly stock models."

Representatives of Cornell University and the Air Force testified on their crash research programs and findings, and on their conclusions that revised designs of automobiles, which produce good "packaging" of passengers, could reduce the frequency and severity of injuries from traffic accidents.

The American Public Health Association urged the Congress to consider the establishment of a national accident prevention center or institute to carry on basic and applied research necessary to establish safety standards and develop new techniques.

**Home safety.** Deaths due to the use of plastic bags came under intense Congressional surveillance. There are 5 pending bills which deal with this problem on a national basis. [See "Wire," July 1959, plus H.R. 7869 (Multer) (a labeling bill)].

Hearings were held on H.R. 7458 (Bennett) which deals only with the use of plastic bags in the District of Columbia. This bill authorizes standards by the District of Columbia's governing body of commissioners, designed to eliminate the danger to children of suffocation. The sponsor of the bill demanded "quick action" "to outlaw these deathtraps" and rejected education and publicity as the means of meeting the danger.

Congressman Stratton, sponsor of H.R. 7387, a national bill to ban completely the use of certain plastic bags for certain purposes, also urged action on the D. C. bill to set a pattern "until such time as a safe product is developed."

The District of Columbia's officials objected to the bill on two grounds, that it failed to give adequate authority to meet the needs of the situation and because they felt that any legislation should be on a national basis.

The industry testified that "education and not legislation is the answer to the situation" and described its activities to cope with the problem. The industry stated

that, if there was to be legislation, it should be on a national basis, and should be limited to requiring warnings or labels; it submitted a proposed draft of such legislation.

The U. S. Public Health Service released the results of its first investigation into plastic-bag deaths, and found the use of plastic bags on bedding for small infants is the principal cause of plastic-bag suffocation. Only one case was found of a child pulling the bag over its head. The Surgeon General warned parents to keep all forms of thin plastic bags away from infants and small children.

**Aviation safety.** In signing into law S. 1, for federal airport aid (see "Wire," March 1959), the President stressed that the bill took a major step toward use of such federal funds "exclusively for airport development projects which contribute to the increased safety of air travel."

The Federal Aviation Agency announced that air traffic at airports and along the airways soared to all-time highs during 1958. Take-offs at FAA-operated control towers increased 6 per cent, to a total of 26,599,719. The traffic was distributed as follows: 53 per cent, air carrier; 41 per cent, military; and 6 per cent, general aviation.

Over the objection of the Air Force, the FAA extended for several months its experimental positive air traffic control program, because, said the FAA, it did not want "to lose the increased safety which has been provided by the program."

FAA dealt with the relationship of air pilots to safety. It issued notices of proposed rule-making proceedings which would impose a 60-year age limit on all airline pilots, and a 55-year age limit on pilots of turbo-jet powered aircraft. It would also require FAA-approved training programs for all flight crew members, and would require all co-pilots to qualify on all types of aircraft to which they might be assigned.

In addition, the FAA engaged in a controversy with the Air Line Pilots about a regulation requiring crew members of commercial airlines to remain at their duty stations while in flight (see "Wire," May

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ENTERTAINMENT as well as instruction was provided in demonstrations along the "Midway of Hazards."

## A Good Show ...with many safety lessons

SOME 4200 persons—employees of construction companies, their families and friends—attended the First Annual Upper Gulf Coast Construction Safety Show held June 4 in Houston's Rice Stadium. Sponsor of the show was The Associated General Contractors' Associations of Texas.

Along the "Midway of Hazards" was a series of demonstrations and exhibits which proved that safety could be entertaining as well as instructive.

One of the events on the Midway was a contest in load lowering. Demonstrating accuracy and safety of control, an 8,000-lb. steel headache ball was lowered to touch an egg without breaking it. Even children of 8 to 10 years were invited to try it. Successful contestants were given silver key chains with the Link-Belt emblem.

Fire fighting techniques were graphically demonstrated by Ray Pfeiffer of Ansul Chemical Company with 40 ft. of gasoline flame under pressure.

Poisonous snakes—rattlers, cottonmouth moccasins, copperheads and coral snakes—were on exhibit. John E. Werler, curator of the Houston Zoo, described the characteristics and habits of snakes, and Paul Saunders of Medical Supply Company demonstrated the treatment of snake bite.

Correct methods of lifting, using leg instead of back muscles, were shown by Fred Winters of Hughes Tool Company.

Selection and use of cable slings were explained and demonstrated by Union Wire Rope Company.

Another attraction on the Midway was the demonstration of the Saf-T-Boom by its inventor, Art

Thomas. The crowd was tense, as the Northwest crane "boomed in" on a 23,000 volt energized line, and Mr. Thomas grasped the hook—with no ill effects. He received an award from E. J. Stone, president of Interstate Life Insurance Company, for his invention.

After the demonstrations, the crowd's attention was directed to the upper concourse of Rice Stadium to more than 35 exhibits of safety equipment.

In charge of the Midway of Hazards with its more than 30 exhibits were Les West, chairman of arrangements and program, and his assistant, "Buck" Partain of W. D. Haden Company.

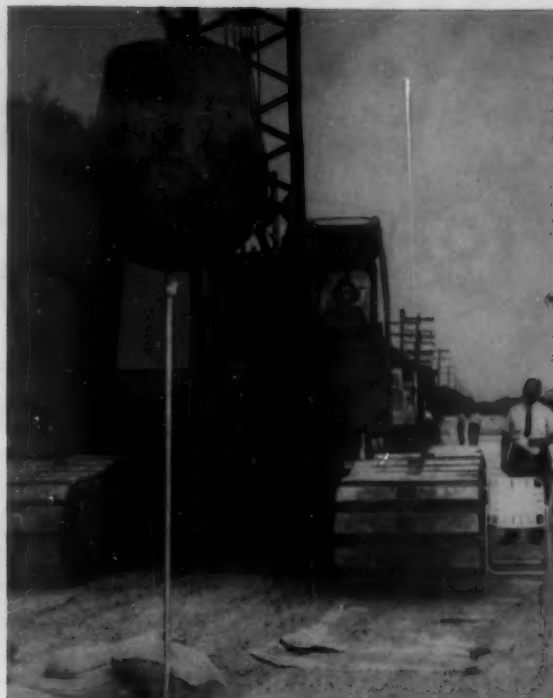
A barbecue dinner was served for those attending, with Morris Frank, humorist of the *Houston Chronicle*, as master of ceremonies and Fred Nahas, local news commentator, as guest speaker.

Presentation of a television set provided the climax of the door prize awards.





**"BOOMING IN"** on a live 23,000-volt line. Art Thomas, inventor of the Saf-T-Boom (holding the hook) wasn't shocked.



**A PRIZE** was offered to anyone who could lower the headache ball on the egg without breaking it. The lady in the cab didn't succeed.

Tri-chairmen, who contributed so largely to the success of the show, were C. A. Bullen, president, Manhattan Construction Company and the Houston Building Chapter; Lorraine M. George, president, George Construction Company and vice-president, Municipal Contractors Association; and E. B. Cape, president, Highway Heavy Chapter. Leonard Thompson, assistant executive secretary of the Municipal Contractors Association, was coordinator for the show, assisted by Wayne Hall of the Highway Heavy Chapter staff.

Plans for the first construction safety show were formulated by the Texas AGC executive council in the summer of 1958, and a show was held in Dallas in November of that year under the leadership of F. Oldt and Lloyd Moss of Texas Employers' Insurance Association.



**NOTHING** like snakes to draw a crowd. John Weler, curator of the Houston Zoo, demonstrated the striking power of a Texas diamondback.

for

# DISTINGUISHED SERVICE



**Winners of National Safety Council**

**Awards for outstanding records**

## Award of Honor

Allis Chalmers Mfg. Co., Harvey, Ill., Works.

American Synthetic Rubber Corp., Louisville, Ky.

Arabian American Oil Co. (3): Dhahran, Saudi Arabia; Dhahran District, Saudi Arabia; Ras Tanura District, Saudi Arabia.

Arthur G. McKee & Co., Cleveland, Ohio, Inland Steel Co. Harbor Works, East Chicago, Ind.

Bethlehem Steel Co. (19): Bethlehem, Pa., Slag Plant; Lackawanna Plant, Buffalo, N. Y.; Eastern Erection District; Lebanon Plant; Leetsdale Works; Pottstown, Pa., Works; Rankin Works; Sparrows Point Plant; Staten Island Yard; Steelton Plant; Fabricated Steel Construction, Steelton Works; Williamsport, Pa.; Bethlehem Cornwall Corp., Cornwall, Pa., Mines; Bethlehem Cornwall Corp., Concentrator Plant, Lebanon, Pa.; Bethlehem Mines Corp., Marion Div.; Bethlehem Mines Corp., Marion Div.; Bethlehem Mines Corp., Randolph Div.; Bethlehem Pacific Coast Steel Corp., South San Francisco, Calif.; Papapasco Scrap Corp., Baltimore, Md. Bliss & Laughlin Inc., Harvey, Ill., Plant.

Burroughs Corp., Electronic Instruments Div., Philadelphia, Pa.

California Packing Corp., Salem, Ore.

Batangas Refinery, Caltex (Philippines) Inc.

Canada Cement Co. Limited (2): Belleville, Ont., Canada; Hull, Que., Canada.

Celanese Corp. of America, Newark, N. J., Plant.

Chrysler Corp., Missile Div., Huntsville, Ala.

Convair—A Division of General Dynamics Corp., Pomona Div., Pomona, Calif.

FOUR TYPES OF AWARDS are given by the National Safety Council to members in recognition of outstanding achievement in accident prevention:

### 1. Award of Honor

Available to (a) units which complete 3,000,000 man-hours without a disabling injury, and (b) units whose records, though not perfect, meet exacting standards. These standards take into account the previous experience of the unit as well as the experience of the industry in which it operates. A unit must qualify on both frequency and severity rates.

### 2. Award of Merit

Has similar but less exacting requirements. Minimum number of man-hours is 1,000,000.

### 3. Certificate of Commendation

For injury-free records covering one or more calendar years and totaling 200,000 to 1,000,000 man-hours.

### 4. President's Letter

For injury-free record covering one or more calendar years and totaling less than 200,000 man-hours.

*Details of eligibility requirements may be obtained by writing to Statistics Division, National Safety Council.*

Crucible Steel Co. of America, Midland, Pa., Works.

Dana Corp., Parish Pressed Steel Co., Reading, Pa.

David Bradley Mfg. Works, Bradley, Ill.

Theo. H. Davies, Laupahoehoe Sugar Co., Plantation, Papaaloa, Hawaii.

The Dow Chemical Co., Midland, Mich.

Esso Research & Engineering Co., Linden, N. J.

Falls Paper & Power Co., Oconto Falls, Wis.

Oman Farnsworth Wright, Karachi, Pakistan.

Fieldcrest Mills, Inc., Towell Mill, Fieldale, Va.

Firestone Tire and Rubber Co. (4):

Guided Missile Div., Los Angeles, Calif.; Industria de Pneumaticos, Firestone S. A., Textile Div., Sao Paulo, Brazil; Los Angeles, Calif., Plant; Sao Paulo, Brazil.

Food Machinery & Chemical Corp., Bolens Prod., Port Washington, Wis.

Ford Motor Co. (15): Buffalo, N. Y., Assembly Plant; Buffalo Stamping Plant, Metal Stamping Div.; Canton, Ohio, Forge Plant; Chicago Assembly Plant; Chicago Stamping Plant, Metal Stamping Div.; Cleveland Stamping Plant, Metal Stamping Div.; Dearborn, Mich., Stamping Plant; Frame Plant, Dearborn, Mich.; General Offices Mfg. Services Div., Dearborn, Mich.; Glass Div., General Offices, Dearborn, Mich.; International Div., Dearborn, Mich.; Nashville, Tenn., Glass Plant; Rawsonville, Mich., Plant; Sterling Township, Mich., Plant; U. S. Area, Misc. & District Sales Offices.

General Electric Co. (2): Design Engineering Sub-Section, Large Steam Turbine-Generator Dept., Schenectady, N. Y.; Hanford Laboratories Operation, Richland, Wash.

General Refractories Co., Plant, Baltimore, Md.

Harbison Walker Refractories Co. (2): Birmingham Works, Fairfield, Ala.; Clearfield Works 2, Clearfield, Pa.

Indianapolis Transit System Inc., Indianapolis, Ind.

International Min. & Chem. Corp., Potash Div., Carlsbad, N. M.

J. A. Jones Construction Co., Hanford Operations Office, Richland, Wash.

Lago Oil & Transport Co., Ltd., Aruba, Netherlands Antilles.

Lockheed Aircraft Corp., Missiles & Space Division-Plant 1, Sunnyvale, Calif.

Manning Maxwell & Moore Inc. (2): Entire Operations, Stratford, Conn.; Stratford, Conn., Plant.

Martin Co., Denver, Colo., Div.  
Mexican Zinc Co., San Rosita Coah,  
Mexico.

National Aeronautics and Space  
Administration, Lewis Research Cen-  
ter, Cleveland, Ohio.

National Lead Co., Titanium Div.,  
Technical Dept., Sayreville, N. J.

North Carolina State Highway  
Commission, Raleigh, N. C.

Owens Illinois Glass Co. (3): Main  
Office, Toledo, Ohio; Mfg. Glass 2,  
Huntington, W. Va.; Mfg. Glass 9,  
Streator, Ill.

Pickands Mather & Co. (3): Erie  
Commercial Mining Pit; Hoyt Lakes,  
Minn.; Toledo Lakefront Dock Co.,  
Cleveland, Ohio.

Pittsburgh Plate Glass Co. (2):  
Mfg. Cement, Zanesville, Ohio; Works  
6, Ford City, Pa.

Radio Corp. of America, RCA Vic-  
tor, Telev. Div., Bloomington, Ind.

Reserve Mining Co., Silver Bay,  
Minn.

Reynolds Metals Co., Kwakwani  
Rio Berbice, British Guiana.

Fred Rueping Leather Co., Fond  
du Lac, Wis.

Standard Oil Company (Indiana)  
(3): Marine Dept., Great Lakes and  
Inland Waterways; Mfg. Dept., 6  
Midwestern States; Whiting, Ind., Re-  
finery.

Stone Container Corp., Chicago.

Teletype Corp., Skokie, Ill.

Tennessee Valley Authority (Over-  
all).

Union Carbide Corp., National Car-  
bon Co., Greenville, N. C.

United Air Lines Inc., Denver,  
Colo., Overhaul Base.

U. S. Plywood Corp., Kosmos Log-  
ging Div., Kosmos, Wash.

United States Rubber Co., Winns-  
boro, S. C., Mills.

U. S. Steel Corp (2): Frick Dis-  
trict, Entire, Uniontown, Pa.; Frick  
District, Robena No. 3 Mine, Car-  
michaels, Pa.

Universal Atlas Cement Co., Hanni-  
bal, Mo.

Vertol Aircraft Corp., Morton, Pa.  
Virginia Department of Highways,  
Richmond, Va.

Western Electric Company, Inc.  
(4): Boston Distributing House; Haw-  
thorne Station Works, Chicago; In-  
dianapolis, Ind., Works; Laureldale,  
Pa., Plant.

Westinghouse Electric Corp. (2):  
Electronics Div., Friendship Plant,  
Baltimore, Md.; Elevator Div., Jersey  
City, N. J.

### Award of Merit

Aetna Portland Cement Co. (2):  
Bay City, Mich.; Birmingham, Ala.

Aluminum Co. of America, Bauxite  
Alumina Works, Bauxite, Ark.

American Brake Shoe (4): Amer-  
ican Manganese Steel, Oakland, Calif.;  
Amforge Div., Chicago; Kellogg Div.,  
Rochester, N. Y.; Railroad Products  
Div., Headquarters, New York City.

American Can Co. (7): Brooklyn,  
N. Y., Plant; Marathon, Div. of Amer-  
ican Can Co., Engraving Plant, Nee-  
nah, Wis.; Halethorpe, Md., Plant,  
14-A; Harbor Plant 17-A, Wilming-  
ton, Calif.; Houston, Texas Plant;  
Hudson Plant, 17-A, Jersey City, N.  
J.; Seattle, Wash., Factory 90-A.

American Marietta Co., Dragon  
Cement Co. Div., Northampton, Pa.

American Oil Co., Texas City,  
Texas, Refinery.

American Radiator & Standard San-  
itary Corp., Baltimore, Md., Works.

Appleton Electric Co., Chicago Op-  
erations.

Arabian American Oil Co., Abqaiq  
District, Saudi Arabia.

Ash Grove Lime & Portland Cem-  
ent Co. (2): Galloway, Mo., Plant,  
Springfield, Mo.; Louisville, Neb.

Aveo Mfg. Corp., Nashville, Tenn.,  
Plant.

Best Foods Co., Inc., Portsmouth,  
Va.

California Portland Cement Co.,  
Colton, Calif.

Dept. of Water and Sewers, Chi-  
cago.

Dewey Portland Cement Co., Dew-  
ey, Okla.

Fort Wayne Transit Inc., Fort  
Wayne, Ind.

General American Transportation  
Corp., Tank Car Div., Masury, Ohio.

Hughes Tool Co., Aircraft Div.,  
Culver City Plant.

Ideal Cement Co., Colorado Div.,  
Florence, Colo.

Koppers Company, Inc., Verona,  
Pa., Research Center.

La Salle Steel Co., Hammond, Ind.

Medusa Portland Cement Co.,  
York, Pa.

National Biscuit Co. (2): Holland,  
Mich.; St. Louis, Mo.

Olin Mathieson Chemical Corp.  
(3): E. R. Squibb & Sons, Brooklyn  
Laboratories; Forest Products, Mon-  
roe, La.; West Bag Plant, West Mon-  
roe, La.

Procter & Gamble Co., St. Bernard,  
Ohio.

Radio Corp. of America (5): Air-  
borne Syst. Lab., Waltham, Mass.;  
Service Co., Govt. Fld. Serv., Nation-  
wide & Overseas, Camden, N. J.;  
NBC Headquarters, Radio & TV,  
New York City; RCA Tube Div.,  
Harrison, N. J.; Montreal Area Plant  
and Branches.

Sylvania Electric Tubes, Equip-  
ment Div. Plant, Mountoursville, Pa.

Tennessee Eastman Co., Research  
Laboratories, Kingsport, Tenn.

Universal Atlas Cement Co. (2):  
Duluth, Minn.; Northampton, Pa.

Veterans Administration, Regional  
Office, Houston, Texas.

Victor Chemical Works, Tarpon  
Springs, Fla.

New York Installation Area, Tele-  
phone Sales Div. Installation, West-  
ern Electric Company, Inc.

Alan Wood Steel Co., Consho-  
hocken, Pa.



### Safe Driving Program Wins NSC Award

T. B. Kimball (left) president of  
Sinclair Refining Company, receives  
the National Safety Council's Public  
Interest Award for Exceptional  
Service to Safety from Howard Pyle,  
president of the Council. The cere-  
mony took place in Sinclair's execu-  
tive offices in New York.

The company was cited for its  
"Drive with Care" program.

The noncompetitive award is  
made annually by the Council to  
public information media. The 1958  
award went to 39 daily and 14  
weekly newspapers, 145 radio and  
35 television stations, 3 television  
and 3 radio networks, 4 radio-TV  
syndicates, 14 general and 44 spe-  
cialized magazines, 7 labor publica-  
tions, 50 advertisers, and 70 out-  
door advertising organizations.

# LIQUEFIED PETROLEUM GASES FOR INDUSTRIAL TRUCKS

**Published by National Safety Council  
425 North Michigan Avenue, Chicago 11**

1. This data sheet covers the safe use of liquefied petroleum gases as motor fuel for industrial trucks and the safe operation of equipment either built for or converted to the use of liquefied petroleum gases.\* It also covers the precautions to be followed in converting trucks to use liquefied petroleum gases instead of gasoline as fuel.

2. Liquefied petroleum gases are commonly called "LPG" or "LP-Gas," and either of these designations as used in this data sheet will mean and include any material which is composed predominantly of any of the following hydrocarbons or mixtures of them: propane, propylene, butanes (normal butane or isobutane), and butylenes. Under moderate pressure the gases liquefy, but upon release of the pressure they readily vaporize into gases.

\*The design, location, construction, and operation of installations for the handling and storage of liquefied petroleum gases are covered in Standard No. 58, *Liquefied Petroleum Gases*, published by the National Fire Protection Association. This pamphlet also contains general rules that apply to the use of liquefied petroleum gases as fuel for industrial trucks. (Standard No. 58 is also published by the National Board of Fire Underwriters, New York 7.)

This Data Sheet is one of a series published by the National Safety Council, reflecting experience from many sources. Not every acceptable safety procedure in the field is necessarily included. This Data Sheet should not be confused with American Standard Safety codes, federal laws, insurance requirements, state laws, rules and regulations, or municipal ordinances.

3. In northern areas, commercial propane is often used as fuel for industrial trucks since at colder temperatures it vaporizes more readily than does butane. In southern areas, a mixture of propane and butane may be used, with the mixture varying according to the season. Rapid vaporization takes place at temperatures above the boiling point (for normal butane about 31 F and for propane about -44 F).

4. The term "industrial trucks" as used in this data sheet refers to the various types of fork lift trucks, crane trucks, and tractors intended for non-highway use in industrial plants, warehouses, shipping facilities, and similar operations.

5. LP-Gas in the gaseous state has flammable characteristics similar to those of any other natural or manufactured fuel gas. The gases are heavier than air and may, under certain conditions, tend to remain in low spots or depressions which are not provided with proper ventilation. Therefore, suitable precautions must be taken to prevent the release of fuel in a building or in any area where a flammable gas-air mixture may develop.

6. The exhaust gases from a properly adjusted engine burning LP-Gas are practically odorless and will not irritate the eyes. Although the amount of carbon monoxide contained in exhaust gas from a properly adjusted LP-Gas engine is small, when the engine is operated in confined areas, care should be exercised to make sure that the maximum acceptable concentration of carbon monoxide (100 parts per million parts of air for an eight-hour exposure) is not exceeded.

## **Types of Equipment**

7. Industrial trucks purchased specifically for use with LP-Gas should be listed by a nationally recognized testing laboratory such as Underwriters' Laboratories, Inc.



or Factory Mutual Laboratories.\* This listing will ensure that proper safeguards have been provided.

8. When gasoline-powered equipment is being converted to LP-Gas, either the conversion system should be listed as a whole, or the component parts, such as valves and regulators, should be listed by a nationally recognized testing laboratory and the conversion made by a competent service man.

9. The gasoline fuel system, including the tank, should be removed or made inoperative. Dual fuel systems are not desirable.

10. The conversion should be made in accordance with the procedures outlined in paragraphs 11 to 36, inclusive. Reproduced in Figure 1 is a typical installation for an industrial truck, showing the fuel system units from tank to gas-air mixer.

#### Fuel Containers, Fittings

11. The fuel containers on industrial trucks may be either removable or permanently mounted. They should be either containers

authorized by the ICC for LP-Gas service\* with a minimum service pressure of 240 psig (pounds per square inch gauge), or ASME containers, Type 250. An ASME Type 250 container built according to the 1956 ASME Boiler and Pressure Vessel Code\*\* will have a design pressure of 312 psig. (For design pressure requirements for containers built according to earlier editions of the Code, see NFPA Standard No. 58, *Liquefied Petroleum Gases*.)

12. A removable container should be provided with a sturdy bracket that permits the container to be removed easily and that has all parts fastened, so the parts, when loosened, will not be lost. Wing nuts, for example, should be riveted or pinned so they cannot be taken off completely.

\*Regulations for containers authorized for LP-Gas service are contained in Agent H. A. Campbell's Tariff No. 10 Publishing Interstate Commerce Commission Regulations for Transportation of Explosives and Other Dangerous Articles by Land and Water in Rail Freight Service and by Motor Vehicle (Highway) and Water including Specifications for Shipping Containers, 30 Vesey St., New York 7.

\*\*Section VIII, "Unfired Pressure Vessels," ASME Boiler and Pressure Vessel Code, 1956 American Society of Mechanical Engineers, New York 18.

13. Fuel containers and lines should be located where they will have minimum exposure to physical damage. If valves and fittings on the container are not protected by virtue of their location, additional protection against physical damage should be provided.

14. Containers should be secured in place on the vehicle by fastenings designed and constructed with a minimum factor of safety of 4 to withstand loading in any direction equal to four times the filled weight of the containers.

15. Field welding, where necessary, should be made only on saddle plates, lugs, or brackets originally attached to the container by the tank manufacturer.

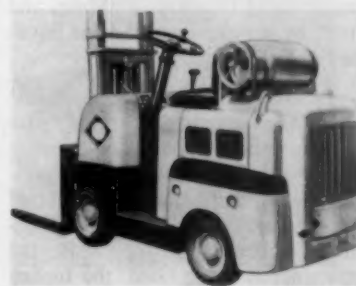


FIGURE 2. Lift truck for use with LP-Gas. (Courtesy Allis-Chalmers Manufacturing Company.)

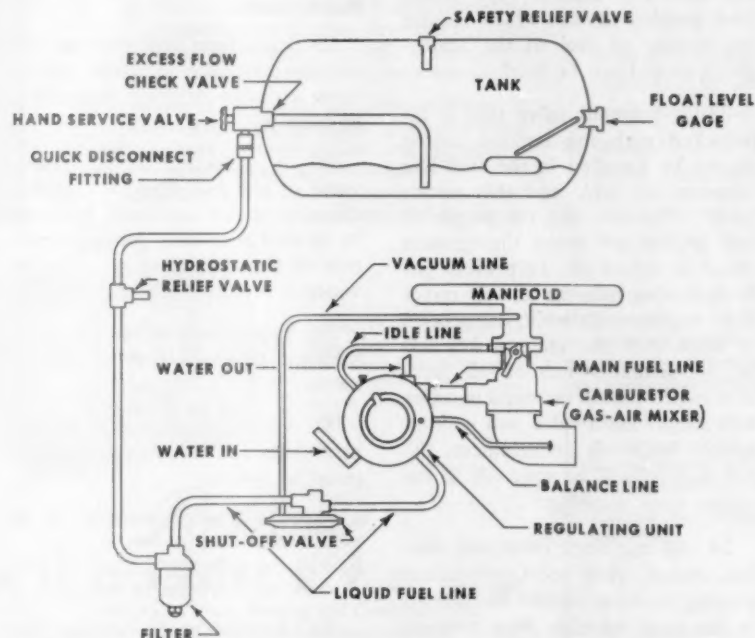


FIGURE 1. Typical fuel system for an industrial truck. (Courtesy Ensign Carburetor Company.)

16. Each fuel container should be equipped with a spring-loaded, internal safety relief valve to relieve excessive internal pressure, which may develop if the container is over-filled or subjected to excessive external heat. These relief valves are normally set at 375 psig for ICC containers and at 312 psig for ASME containers. (A plus 10 per cent tolerance is accepted for ASME containers.)

17. The discharge outlets from safety relief devices should be located on the outside of enclosed spaces and as far as practicable from possible sources of ignition. The outlet should be vented upward in such a manner as to prevent impingement of escaping gas upon containers, parts of the vehicle, and the operator.

18. Fuel container valves and accessories should have a rated work-



**FIGURE 3.** LP-Gas powered truck in operation. (Courtesy Hyster Company.)

ing pressure of at least 250 psig, and must be a type approved for liquefied petroleum gas service.

19. The filling connection of fuel containers should be fitted with an approved double back-pressure check valve or with a positive shut-off in conjunction with an internal back-pressure check valve. To minimize pressure build-up while the container is being filled, the fueling connection should terminate in the vapor space of the container.

20. On a removable fuel container, the filler valve may be a hand-operated shutoff valve with an internal excess flow check valve. Also, the fuel line may be equipped with an automatic quick-closing coupling, a type that closes in both directions when uncoupled, to minimize the escape of fuel when containers are exchanged. If the fuel line does not have such a coupling, the valve at the fuel container should be closed and the engine should be allowed to run until the fuel in the line is consumed. Main shutoff valves for liquid and vapor lines on the container should be readily accessible.

21. All connections to containers (other than connections for safety relief valves and filling connections equipped with approved automatic back-pressure check valves) having openings for the flow of gas in excess of a No. 54 drill size should be equipped with approved automatic excess flow valves to prevent

discharge of contents in the event connectors are broken. This requirement may be waived when such exception is recognized by the testing and listing of containers and fittings by Underwriters' Laboratories, Inc., or other recognized testing laboratories.

22. Each permanently mounted fuel container should be equipped with a fixed-length dip tube gauge to prevent the tank from being filled beyond its maximum permitted filling density. Variable type liquid level gauging devices which require the venting of fuel to the atmosphere should not be used.

23. A solenoid valve that is interlocked with the ignition switch should be installed in the fuel line between the tank and the gas-air mixer, to ensure that the supply of fuel is shut off when the ignition switch is turned off. To prevent gas from leaking into the gas-air mixer if the engine stalls while unattended or stops with the ignition key left on, a vacuum switch or oil pressure switch should be wired in series with the solenoid valve and ignition switch. With this arrangement, the fuel supply will be shut off if the engine stops running.

24. All container inlets and outlets, except safety relief valves and gauging devices, should be labeled to designate whether they connect with liquid or with vapor space. Labels may be on valves.

25. Piping from the fuel container to the first stage regulator should be wrought iron or steel (black or galvanized), brass, or copper pipe; or seamless copper, brass, or steel tubing. Steel pipe or tubing should have a minimum thickness of 0.049 inch and should be protected against exterior corrosion. Copper tubing should be Type K or L or equivalent, having a minimum wall thickness of 0.032 inch. Approved flexible connections may be used between the container and the regulator or between the regulator and the gas-air mixer. Aluminum piping or tubing should not be used.

26. Pipe joints may be screwed, flanged, welded, soldered, or brazed with a material having a melting point exceeding 1,000 F. Joints on seamless copper, brass, and steel should be made with approved gas tubing fittings, or soldered or brazed with a material having a melting point exceeding 1,000 F.

27. All piping should be installed, braced, and supported to reduce vibration, wear, and strain to a minimum.

28. On a removable container, an approved flexible connection should be used between the container and the fuel line.

#### **Vaporizers**

29. Vaporizers and parts subjected to container pressure should have a design working pressure of at least 250 psig.

30. A vaporizer should have a valve or suitable plug for complete draining of the vaporizer. It should be located at or near the lowest portion of the section occupied by the water or other heating medium.

31. Vaporizers should be securely fastened to prevent their working loose.

32. Vaporizers should be permanently marked at an easily visible point as follows:

- a. With the design pressure of the fuel-containing portion in psig.
- b. With the water capacity of the fuel-containing portion in pounds.

33. Equipment to supply heat directly to fuel containers should be provided with automatic devices

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to cut off the supply of heat before the pressure inside the containers reaches 80 per cent of the start-to-discharge pressure setting of the safety relief valves on the containers.

34. Exhaust gases should not be used as a direct source of heat supply for the vaporization of fuel.

35. Fusible plugs should not be used on vaporizers.

### Regulators

36. An approved automatic pressure-reducing regulator should be installed in a secure manner between the fuel container and the gas-air mixer, to reduce the pressure of the fuel delivered to the gas-air mixer.

### Truck Operation

37. Trucks should be kept in good repair.

38. When not in use, trucks having permanently mounted fuel containers should be stored in a well ventilated fire-resistant shelter or garage. Trucks having removable containers do not have to be stored in a special garage if the containers are removed. The containers, however, should be stored outdoors or in a separate fire-resistant shelter.

39. Trucks with permanently mounted containers, or the removed containers, may be stored inside a building used for other purposes, provided the total gas capacity does not exceed 2,000 cubic feet (approximately 230 pounds of propane).

40. Trucks having permanently mounted fuel containers should be refueled outdoors, at least 20 feet away from any building and at least 10 feet away from any fuel storage tank over 2,000 gallons in capacity. The engine should be turned off, and there should be no ignition source within 50 feet.

41. Where practicable, removable fuel containers should be exchanged outdoors. The precautions indicated for refueling permanently mounted containers apply to refueling removable containers as well.

42. An LP-Gas fuel container should never be filled beyond the maximum safe limits (maximum

filling density) specified in NFPA Standard No. 58 or in the ICC Regulations. This precaution is important in order to prevent the container from becoming liquid full if the liquid temperature increases. Filling density is defined as the per cent ratio of the weight of the gas in the container to the weight of water the container will hold at 60 F.



FIGURE 4. Fork lift truck powered by LP-Gas in warehouse operation. (Courtesy Towmotor Corporation.)

43. The filling density varies, depending upon the specific gravity of the LP-Gas. For example, the filling density for commercial propane with a specific gravity of 0.51 is 42 per cent, while for commercial butane with a specific gravity of 0.58 it is 51 per cent.

44. The maximum amount of LP-Gas that should be placed in containers filled by weight, such as removable LP-Gas motor fuel containers, is readily determined by multiplying the water capacity in pounds by the appropriate filling density. The fixed-length dip tube, which must be used in permanently mounted containers, is set to indicate the maximum level to which the container can safely be filled, based on liquid temperature of 40 F. This level should not be exceeded.

45. All operators and maintenance personnel should be trained in safe operation and handling of equipment. A rigid and thorough inspection and maintenance procedure should be followed. On trucks having permanently mounted fuel containers, major repairs should be done outdoors or in a well ventilated cutoff area. Trucks should never be repaired over floor pits or in rooms having floor pits.

46. Trucks should not be left standing for other than short periods of time in the vicinity of objects of high temperature, such as ovens and furnaces. The heat may raise the pressure of the fuel to a point where the relief valve will operate. This rule of thumb may be used when trucks are in the vicinity of objects of high temperature: If the driver can stand the temperature, it is not high enough to cause the relief valve to operate.

47. Each truck should be equipped with a suitable fire extinguisher, such as a four-pound dry chemical extinguisher or an equivalent CO<sub>2</sub> extinguisher.

### REFERENCES

- Agent H. A. Campbell's Tariff No. 10  
Publishing Interstate Commerce Commission Regulations for Transportation of Explosives and Other Dangerous Articles by Land and Water in Rail Freight Service and by Motor Vehicle (Highway) and Water including Specifications for Shipping Containers, 30 Vesey St., New York 7.  
Industrial Trucks, Standard No. 505, National Fire Protection Association, Boston 10.  
Liquefied Petroleum Gases, Standard No. 58, National Fire Protection Association, Boston 10.  
Safe Handling of Liquefied Petroleum Gases When Used as Motor Fuels, Federation of Mutual Fire Insurance Companies, 20 N. Wacker Drive, Chicago 6.  
Section VIII, "Unfired Pressure Vessels," ASME Boiler and Pressure Vessel Code, 1956, American Society of Mechanical Engineers, New York 18.  
Standard for LP-Gas Industrial Trucks, No. 558, Underwriters' Laboratories, Inc., Chicago 11.

### ACKNOWLEDGMENT

This data sheet was prepared by the Petroleum Section, National Safety Council, with the help of the Liquefied Petroleum Gas Association, Inc. It has been extensively reviewed by Council members, including the Fire Prevention Committee of the Council's Industrial Conference, and approved for publication by the Publications Committee of the Industrial Conference.



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Circle Item No. 11—Reader Service Card

# Latest on Ladders

**New edition of American Standard Code offers up-to-date guide for selection, use, and maintenance**

SINCE 1923 the *American Standard Safety Code for Portable Wood Ladders* has been the generally accepted guide to the construction, care, and use of portable wood ladders. The fourth revision, A14.1-1959, just published by the American Standards Association, brings the code up to date.

The new edition has been improved in its effectiveness by clarifying some points about which uncertainties existed in the past, according to Alan D. Freas of the Forest Products Laboratory, U. S. Department of Agriculture. Freas is chairman of the ASC Subcommittee A14.1 on Portable Wood Ladders.

**Dimensions.** The intent of the code in relation to deviations from the minimum dimensions specified for ladder parts has been clarified in the revision.

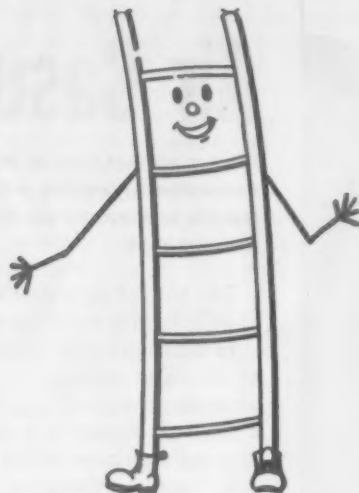
**Construction.** For stepladders, the new edition provides for the use of angle braces at the ends of longer steps. Additional methods of bracing back sections are described, and measures to reduce the possibility of splitting the back leg at the hinge pin have been added.

**Materials.** Numerous changes have been made to clarify the meaning and intent of the code and to modify both material and construction requirements. Tables give classification of various species of wood acceptable for use in ladders, with maximum allowable fiber stresses in pounds per square inch for the species of wood in each of the four groups.

Another table in the appendix (not part of the code) gives the average densities of various species in pounds per cubic foot. This information will be useful in selecting material where the total weight of the ladder must be considered.

**Maintenance.** An entire section contains recommendations for the maintenance, use, and storage of ladders. It says that ladders should be kept coated with a "suitable protective material." While the coating is not specified, transparent materials, such as linseed oil and spar varnish, are commonly used.

Painting is satisfactory, provided "ladders are inspected prior to painting by competent and experienced inspectors acting for, and responsible to, the purchaser, and providing the ladders are not for resale."



**MANY** ladders need shoes.

State laws and local ordinances should be checked, too.

In addition to offering construction details for all types of wood ladders, the code is suitable as a guide to state authorities and other regulatory bodies in the formulation of laws and regulations. It is also recommended as a guide to purchasing, in the preparation of plant manuals and safety instructions, and job training.\*

The code is sponsored by the American Ladder Institute, the American Society of Safety Engineers and the National Association of Mutual Casualty Companies.

\*Copies of the American Standard Safety Code for Wood Ladders (A14.1-1959) are available at \$1.50 each from the American Standards Association, 70 East 45th Street, New York 17.

## The Greatest of These . . .

Of the fire protection fundamentals—construction, protection, management—the last is the most important, said J. M. Rhodes, Factory Mutuals' director of engineering before the 63rd Annual Meeting of the National Fire Protection Association.

"Management and organization go together," he said. "Both are made up of people. It is people, then, who are important in fire protection. As in preventing or winning a war, the prevention and extinguishment of fire takes people—well-trained, informed, interested people."

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Circle Item No. 12—Reader Service Card



*In field after field—FIRST with*

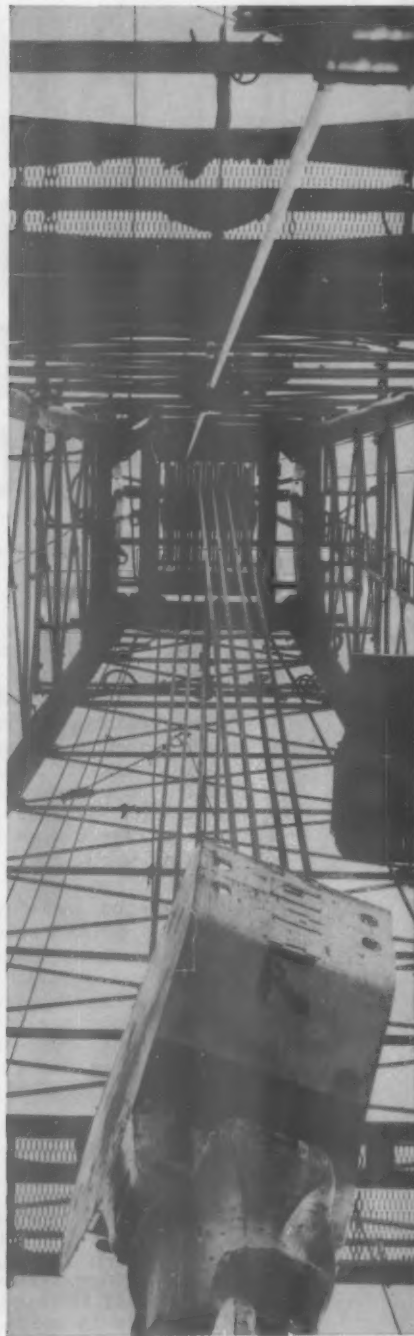
# **SAFETY IN**



**FIRST** in customer service. The set of J&L braided slings, shown here with a 70-ton lift, has been in service for 5 years. Recommended by a J&L wire rope engineer, the set replaced slings that had to be renewed every 30 days.



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**FIRST** in the development of new types of wire rope. To reduce oil well drilling costs, J&L designed SpringKore for deep well rotary drilling . . . and PlastiKore to help increase cable tool life in oil and water well drilling.



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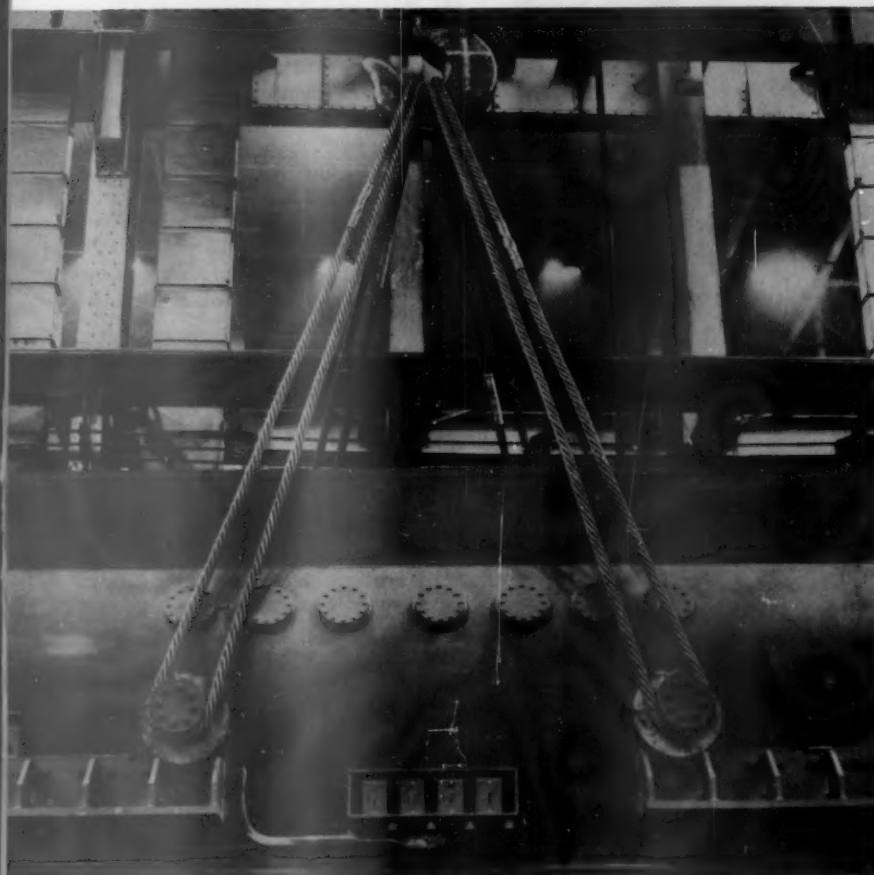
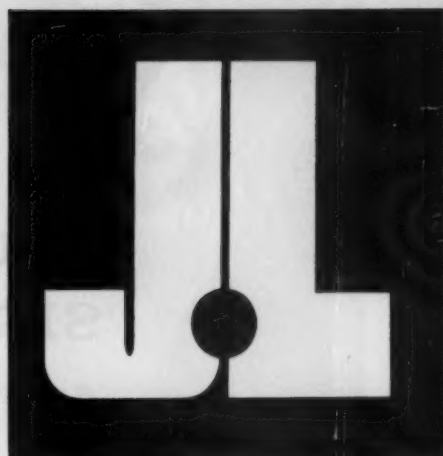
**FIRST**—because J&L is an integrated producer and is able to control quality from iron ore to finished product. And, because every wire, every wire rope and every J&L assembly is thoroughly tested before and after fabrication.

**FIRST**—because J&L brings to industry the J&L "Safety in Lifting" school which provides in-plant classes and demonstrations to help industry reduce lifting hazards and operating costs.

**FIRST**—because over 300 J&L wire rope distributors and 16 J&L wire rope warehouses across the nation are equipped to provide the best service and delivery of wire rope, manila, and proof-tested wire rope assemblies.

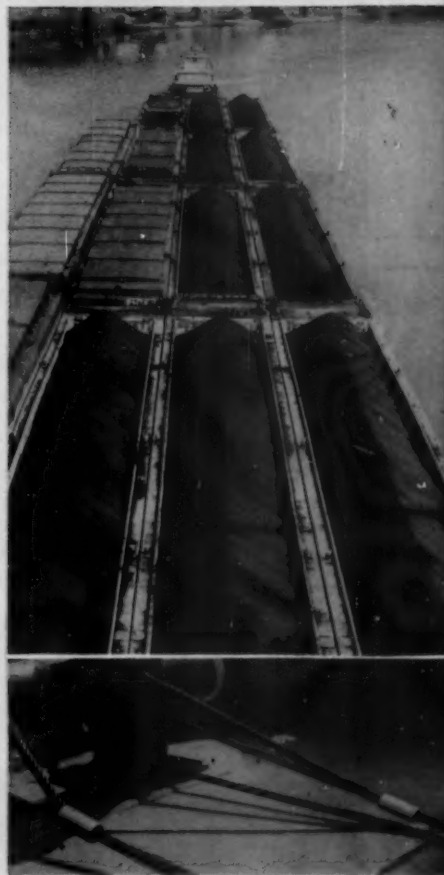
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Circle Item No. 14—Reader Service Card

## Notice to members of the National Safety Council:

*Amendments to Constitution and  
By-Laws Approved.*

In a notice dated April 25, 1959, all members of the National Safety Council were notified that a Special Council Meeting would be held on June 23, 1959, for the purpose of considering and acting upon certain amendments to the constitution which had been proposed by resolution of the Board of Directors of April 14, 1959. Along with the notice of the meeting, Council members received the full text of the constitutional amendments.

The Special Council Meeting was held as scheduled, and the proposed constitutional amendments were adopted by vote of the members. There were 26,109 affirmative votes and 224 negative votes.

Members of the Council were also advised, in the April 25 mailing, that certain revisions in the By-Laws, consistent with the constitutional revisions, had been acted upon by the Board of Directors, and that final action with respect to these revisions would be taken at a meeting of the Board of Directors scheduled for June 23, 1959. The complete text of the By-Laws revisions was included in the mailing to members.

The meeting of the Board of Directors was held as scheduled and the proposed revisions of the By-Laws were adopted, the vote being 54 votes for, and one against.

The revised Constitution and By-Laws have now been printed, along with the Council's Charter, in a single booklet, a copy of which may be obtained by any Council member upon request to headquarters.

R. L. FORNEY  
Secretary

Most men spend their working lives making what others will use—and their leisure in using what others make.

Leisure is a beautiful garment, but it will not do for constant wear.

National Safety News, August, 1959

## 1958 Citation Award Program Announced

The National Safety Council is inviting entries in the 1958 Citation Award program, recognizing outstanding traffic safety activities of organizations and individuals.

Eighteen citation awards may be presented for any one calendar year—6 to individuals, 12 to organizations. Of individual awards, 1 may be for a nationwide traffic program started by an individual. The remaining 5 awards may be for state or local projects.

Citations to organizations may cover national, state, and/or local activity in four classifications: 1, civic-service groups; 2, professional and trade associations; 3, business and commercial firms; and 4, governmental organizations—civil or military.

Nominations may be made by the nominee or by any individual or organization with knowledge of the nominee's activity in traffic safety. Announcement folders and nomination blanks are available singly or in quantity.


September 1, 1959, is the closing date for 1958 nominations. Citation winners, selected by NSC-appointed judges, will be announced during the Traffic Conference at the National Safety Congress in October at Chicago. Presentations will take place later at the winner's convenience.

## The Arson Menace

Arson is an increasingly serious problem in this country, said Brendan P. Battle, manager of the Arson Department of the National Board of Fire Underwriters, speaking before the 63rd Annual Meeting of the National Fire Protection Association.

A particularly noticeable spurt has occurred in fires set to collect insurance. During the 12 months ending May 1, the department investigated 3,698 questionable cases. More than 550 of them fitted into the fraudulent category. In 115 instances arrests were made.


The 550 cases included a number in which arson could not be definitely established but suspicion was pretty strong.



# DON'T BUY ANY STORED PRESSURE EXTINGUISHERS

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# AROUND THE COMPASS



## ACTIVITIES

### • PROGRAMS

### • EVENTS

By Nils Lofgren

Field Service Department, NSC

## Welcome 13 New Conference Members

The Conference of State and Local Safety Organizations welcomes 13 new members.

At its meeting on June 23 in Chicago, the NSC Board of Directors approved the application of 13 organizations accredited in the Inventory and Appraisal Service and recommended for membership by the executive committee of the Conference.

These new member organizations are:

### Metropolitan:

Dade County Citizens Safety Council, Miami, Florida  
Northwest Florida Safety Council, Pensacola, Florida  
Greater Detroit Safety Council  
Genesee County Traffic Safety Commission, Flint, Michigan  
Memphis-Shelby County Safety Council, Memphis, Tennessee  
Citizens Traffic Commission, Lubbock, Texas  
Greater Waco Safety Council, Waco, Texas  
Massachusetts Safety Council, Boston (serving Eastern Mass.)

### State:

Indiana Traffic Safety Foundation  
California Traffic Safety Foundation  
Wisconsin Council of Safety, Inc.  
Texas Safety Association  
Tennessee Safety Council

## Ed Smith With Cancer Association

Edwin S. Smith resigned from the National Safety Council June 30 to become executive secretary of the Monroe County Cancer Association, Inc., in Rochester, N. Y.

Ed has been a field representative for NSC in eastern and New England states for the past eight years after a five-year term as director of the Department of Health and Safety of the Rochester Chamber of Commerce. At the time of his resignation, he was confining his field work to New York.

The Cancer Association was established in January of this year; it is pledged to conduct a cancer control program throughout the county. In addition to Ed Smith, the staff will include a secretary, a social worker, and a nurse consultant.

## Pedestrian Program on In Sioux Falls

The Sioux Falls, S.D., Safety Council launched a special pedestrian education program to prepare for installation of a new type of traffic signal at downtown intersections.

The signals are being installed at 10 intersections and include "Leave Curb" and "Don't Leave Curb" intervals.

According to the council's executive secretary, Durand Young, the educational program is built around the new signals but also emphasizes basic pedestrian rules.

## California Governor Names New Committee

Gov. Edmund G. Brown has announced the appointment of a seven-man Governor's Standing Committee on Transportation and Highway Safety. This committee has been designated by the governor to replace the Coordinating Committee of State Officials for Traffic Safety.

The committee chairman is Robert McCarthy, director of the De-

partment of Motor Vehicles; the committee's secretary is Tom Bright, chief of the division of Administration, Department of Motor Vehicles.

## Indiana Posts Filled by Huber, Beaver

Albert E. "Al" Huber has been named to succeed the late Hallie Meyers as executive director of the Indiana Traffic Safety Foundation.

Al has been the director of the Indiana office of traffic safety. This position will now be filled by Lucien C. "Lou" Beaver, formerly assistant director.

## "Singing Cop" Announces Retirement

"Flint's Singing Cop," Lieut. Wilburn Legree, is retiring after 25 years of service on the police department of this Michigan city.

Lieut. Legree became well known by his method of teaching safety to children through safety songs. Following his retirement, the lieutenant will be available to assist safety councils in setting up child safety programs, supervising and training safety patrols, and in other related programs.

## Safety Briefs

Paul N. Doll, managing director of the Missouri Professional Engineers Association, has been named acting executive secretary of the Missouri Safety Council.

Officers of the Springfield-Greene County, Mo., Safety Council have selected Donald Dale Bown as executive director of the council. Bown has been news editor for radio station KGBX.

Ontario—Because of the success of the Road Safety Workshops in 1958, a similar conference will be held in 1959. W. B. G. Reynolds, commissioner of highway safety for Ontario, has announced this year's workshops will be conducted September 9-10 at the Royal York Hotel, Toronto. The workshops are sponsored by the Ontario Department of Transport.

Robert J. Allen has been named manager of the Arizona Traffic Safety Foundation. Mr. Allen was formerly assistant manager of the Accident Prevention Department of the Association of Casualty and Surety Companies.



**LOOK** for improvements in industrial handcleaners



## A NEW WAY to clean working hands

There has never been such a combination of *plus* features to keep workers' hands healthy—and therefore on the job day after day!

It's a brand new scientific formulation — non-depleting Lan-O-Kleen *PLUS*.

It's WEST'S famous Lan-O-Kleen handcleaner . . . *plus* a softer scrubbing action . . . *plus* a gentler sudsing action . . . *plus* a soothing lanolin action!

All of which combine to combat the depletion of natural skin oils while hands are being washed clean.

Highly important is the exclusive process that keeps the rich lanolin content of Lan-O-Kleen *PLUS* "free" to soothe and soften. Lanolin is impregnated into a corn meal base, instead of being "held" in the soap by conventional methods. In this way, it is instantly released for more positive, beneficial action.

Lan-O-Kleen *PLUS* is dispensed from a patented, precision-action unit. A clog-proof measuring valve with a mechanical agitator delivers a thrifty, yet adequate individual portion. More than 435 pairs of hands can be washed with each dispenser filling.

**FREE TRIAL OFFER.** We'd be glad to send five pounds of Lan-O-Kleen *PLUS* and loan a dispenser for free trial. Or we'll send a smaller sample for evaluation. Just call your local WEST office. Or mail the coupon to our Long Island City Headquarters, Dept. 3.

- ☐ Supply a dispenser and 5 lbs. of Lan-O-Kleen *PLUS*.
- ☐ Send a small sample of Lan-O-Kleen *PLUS*.

Name \_\_\_\_\_

Position \_\_\_\_\_

PROGRAMS AND SPECIALTIES  
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AND PREVENTIVE MAINTENANCE



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# Industrial Staff Setup Modernized

*Revised staff setup provides personnel for  
both sectional work and general projects*

LARGEST of the National Safety Council's program departments, the Industrial Department, has been reorganized to provide for more efficient operation and better service to members.

The new organizational setup provides for six divisions within the department. Under division directors are grouped similar industrial sections, and each division is responsible for a share of the department's projects.

The entire work of the department is under the direction of Roy Benson, who was promoted to manager in June of this year. Benson, formerly assistant manager and prior to that staff representative for several sections, believes that the realignment of personnel will expe-

dite Council work. Benson says, "The new setup will effect better coordination and control."

**Training Division.** Glenn Griffin, well-known to thousands of safety engineers as the director of the Industrial Safety Training Institute, has been named assistant department manager. Griffin also is director of the Training Division with responsibility for training, visual aids, employee publications, and fire prevention. Three engineers representing six sections are included in the Training Division. They are Leonard Smith (metals, petroleum), Robert Currie (pulp and paper, wood products) and Ray Ellis (food and beverage, trades and services). Currie also has

responsibility for specialized problems of fire prevention.

**The Technical Publications Division** is headed by Art Kelly who is also staff representative of the Power Press and Forging Section and the Council's representative in safety standards activities. Other engineers in the division are: Harry Johnson (automotive and machine shop, printing and publishing) and Robert Wilkins (aeronautical, air transport). Johnson handles off-the-job safety and Paul Schleich devotes full time to codifying and



Roy Benson

publication of inventories of occupational safety activities.

**Special Projects.** Les Dutton is director of the Special Projects Division and staff representative for the Marine and Railroad Sections. Les also is the Council's specialist on material handling problems. The division will concern itself with inter-office liaison, especially with advertising and membership. Division staff representatives are Clem Luepke (construction, public employee), Paul Sheppard (electrical equipment, public utilities) and Clint Hoch (mining, coal mining).

**Industrial Hygiene.** Ed Alpaugh heads the Industrial Hygiene Division and also is staff representative of the Chemical Section. This division is responsible for work concerning safety aspects of nuclear energy in industry and industrial hygiene activities. Section representatives in the division are Jim Christie (cement, quarry, and min-

—To page 100

THE INDUSTRIAL DEPARTMENT has played a key role in Council work since the Council's very beginning when it was known as the National Industrial Safety Council. It was the appalling toll of deaths and injuries in the nation's industries that led the Association of Iron and Steel Electrical Engineers to call the first Cooperative Safety Congress in 1912.

Since that first Congress, followed by the Council's organization in 1913, there has been a constant increase in the Council's industrial safety activities. By 1915, a number of industrial sections, including chemical, cement, mining, and textile, had been established. Today the Industrial Department has 27 sections dealing with accident prevention in every field from abrasives to zirconium.

The policies of the Industrial Department are set by the Industrial Conference. To a lesser degree, the activities of the individual industrial sections are decided by the sections' executive committees. But then there remains the job of putting these policies into effect. This is the work of the staff of engineers at the Council's headquarters in Chicago.

An engineer in the Industrial Department is assigned to each section to expedite the work of the section's executive committee and represent the committee in staff conferences.

While a large share of the Industrial Department's activities fall into these sectional categories, there are other jobs that cover broad industrial areas. Some of these are training, technical publications, visual aids, and data sheets.

# ANY MAN CAN WEED-PROOF 10,000 SQUARE FEET IN TEN MINUTES...with UREABOR



—just apply **UREABOR®** and you can forget about weeds for the season!



Think of the savings—in time and money—this weed killer offers you! UREABOR is the special granular weed killer meeting all requirements of industrial users. A little does a lot! One DRY application of only 1 to 2-lbs. per 100 sq. ft. creates weed-free areas anywhere for a whole year! UREABOR is safe, effective, economical and convenient. It's always ready for use direct from the bag—in the easiest possible way—to destroy weeds and protect your property from grass fires.

**A SPECIAL SPREADER** simplifies and speeds UREABOR applications at low rates with accuracy. Spreader holds enough UREABOR to treat 1250 sq. ft. without refilling; weighs a mere 6 lbs. Width of the swath can be adjusted.

**UREABOR IS 2 HERBICIDES IN 1...** The plant-destroying powers of 2 proven herbicides are combined in this granular complex of sodium borates and substituted urea (3-P-Chlorophenyl, 1-1, dimethylurea) to yield superior, non-selective results.

**STANDARD PACKAGE IS 50 LBS.** UREABOR is packed in multiwall paper sacks for easy handling—easy storing. A convenient package, easily disposable, for spotting at predetermined intervals to facilitate large-area applications.

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Circle Item No. 17—Reader Service Card

# THE ACCIDENT BAROMETER



Prepared by the Statistics Division,  
National Safety Council

ACCIDENTAL deaths in April tallied approximately 6,900, or 1 per cent below April a year ago. Decreases in home and public non-motor-vehicle accident fatalities were nearly offset by increases in motor-vehicle and work.

The four-month death total was 28,300, or 1 per cent more than occurred in 1958. There were increases in deaths from motor-vehicle and public non-motor-vehicle accidents, a decrease in home, and no change in work.

## Motor-Vehicle Deaths

The motor-vehicle death total in April was 2,610, or 1 per cent more than last year.

The death total for four months was 10,690, a 4 per cent increase from 10,270 a year ago. The four-month death rate per 100,000,000 vehicle miles is not available at this time, but the three-month rate was 5.1, no change from 1958.

For the four-month period, 19 states had fewer deaths than last year (including Alaska) and 30 had more deaths. States with the greatest improvement for the first four months of the year were: Alaska, —33 per cent; Louisiana, —26 per cent; Ohio, —16 per cent; Montana, —15 per cent.

Reporting cities with populations of more than 10,000 had a decrease of 5 per cent for April but an increase of 1 per cent for the four-month period. Cities with more than 200,000 population having the largest reduction in deaths for the first four months of 1959 were: St. Paul, Minn., —64 per cent; Rochester, N. Y., —63 per cent; Norfolk, Va., —57 per cent.

## Work Accidents

Deaths from work accidents tallied 1,200, or 100 more than last year. The four-month death total was 4,300—no change from 1958.

The April frequency rate per

1,000,000 man-hours in 18 sectional accident prevention contests conducted by the National Safety Council was 5.22, an increase of 5 per cent over last year. The four-month rate was 5.09, an increase of 1 per cent.

## Public Deaths

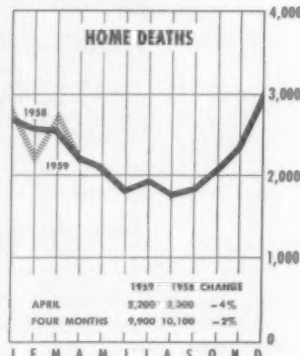
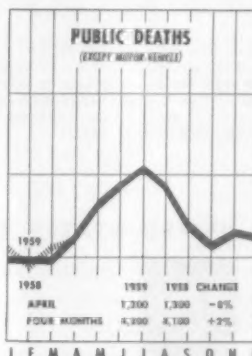
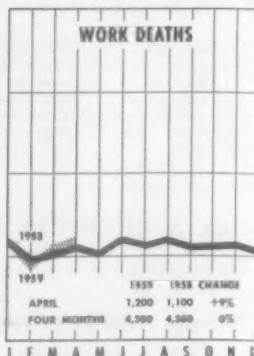
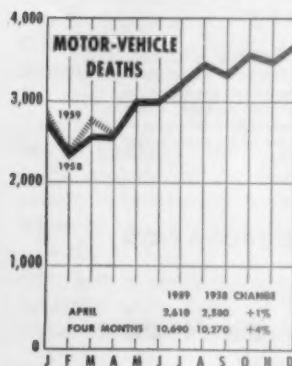
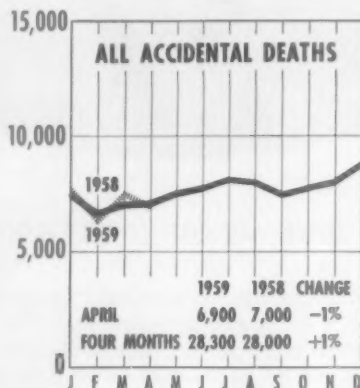
There were approximately 1,200 deaths from public non-motor-vehicle accidents in April, or 100 less than in 1958.

The four-month death total was 4,200, an increase of 2 per cent over last year. More deaths resulted from falls and firearms accidents, fewer deaths from transportation accidents, and about the same number from burns and drownings. Aside from decreases in deaths of children 5 to 14 and young people 15 to 24 years old, all age groups showed increases from 1958, with the largest change recorded for children under 5 years of age.

## Home Deaths

Home accident deaths in April numbered 2,200, or 100 fewer than last year.

The total for four months was 9,900, a reduction of 2 per cent from 1958. There were decreases in poisonings, falls, and mechanical suffocation deaths and increases in fatal burns and firearms accidents. Most of the reduction occurred among persons 65 years and older. Deaths of persons 45 to 64 years old also were down, while deaths in the other age groups showed increases over 1958.





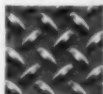


## INLAND 4-WAY\* SAFETY PLATE

As you can see, 4-WAY SAFETY PLATE is fireproof, can be bent, welded, hammered, painted. It can be cleaned with ease, can be cut, sheared, shaped to any curve or angle, drilled or punched. An outstanding feature of 4-WAY is its *slip-proof* character, as shown by the dancer. On catwalks, stair treads, truck beds, shop floors it provides positive traction, reduces hazards, safeguards employees.

Maintenance is extremely easy, fabrication and

installation is simple. In many cases, no special skills are required—standard shop tools are all you need. On the floor, on the wall, on your machinery or your rolling stock, 4-WAY SAFETY PLATE is durable, attractive and economical. 4-WAY SAFETY PLATE is available from your Steel Service Center in Large Pattern—gages  $\frac{1}{4}$ " to  $\frac{3}{4}$ ", Medium Pattern—gages 16 to  $\frac{1}{4}$ " and Small Pattern in 18 gage.



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Circle Item No. 18—Reader Service Card

# PERSONALS

News of people in safety  
and related activities

## Kelsey Retires, Vorhes Promoted by J & L

FRANK W. KELSEY, coordinator of safety for Jones & Laughlin Steel Corporation, Pittsburgh, retired July 31 after a 40-year career which has paralleled the industrial safety movement from its beginning.

CHARLES P. VORHES, who has been supervisor of safety, employment, and training at J & L's Cleveland Works, succeeds Mr. Kelsey.

Mr. Kelsey has coordinated safety activities for J & L's 46,000 employees for the past 14 years and has had an active part in the program for 37 years. A native of Lydney, Gloucestershire, England, he came to this country with his parents when he was four.

He attended schools in Newcastle, Pa., and evening school at the University of Pittsburgh. After service with the U. S. Army 1917-1919, he joined Aliquippa Works accounting department and in 1922 was transferred to the safety department. He was promoted to assistant superintendent of the department in 1925 and became superintendent in 1934. He was named coordinator of safety for the corporation in 1945.



Frank W. Kelsey

*Fundamentals of Accident Prevention*, a training manual for supervisors developed under the direction of Mr. Kelsey and his staff, has been printed and distributed to various organizations throughout the world.

Mr. Kelsey is a member of the American Iron and Steel Institute Safety Committee; past general chairman of the Metals Section, NSC; past chairman of Pittsburgh Chapter, Veterans of Safety; and a member of the American Society of Safety Engineers; the Society of Ohio Safety Engineers; and the Industrial Conference of the National Safety Council.

Mr. Vorhes has been with J & L since July 1945, when he joined the corporation as safety inspector at Aliquippa. He was promoted to assistant superintendent, Safety and Welfare Division, Aliquippa, in December 1950, and was appointed superintendent of safety, employment, and training at Cleveland Works in August 1955.

Mr. Vorhes is a member of the executive committee, Metals Section, NCS; the American Society of Safety Engineers; the Greater Cleveland Safety Council; and the Society of Ohio Safety Engineers.

## Retires from C & NW

WILLIAM H. ROBERTS, for many years superintendent of safety for the Chicago & North Western Railway System, retired July 1 after 50 years' service with the railway.



Charles P. Vorhes

During World War II, Mr. Roberts served as executive officer of the 720th Railway Operating Battalion, which saw active service on the continent of Europe. He left the Army with the rank of lieutenant colonel.

Since 1946 he has held numerous offices in the National Safety Council's Railroad Section, including the general chairmanship in 1947-48. He has been a member of the Council's Industrial Conference since 1947.

He is succeeded by D. L. PERRIN, formerly superintendent of the Galena division with headquarters in Chicago.

A native of Cherokee, Iowa, Mr. Perrin was graduated from the University of Iowa. Before coming to the North Western he had been with the Illinois Central as a fireman and locomotive engineer before serving in the operating department as yardmaster and trainmaster.

## Heads NSC Library



Lois Zearing

LOIS ZEARING, a member of the National Safety Council's Library staff since 1944, has been appointed director of the Library. She succeeds Mrs. Ruth B. Parks, who has retired on account of illness.

Miss Zearing joined the Council as a cataloger and classifier, and two years later was appointed assistant director of the Library. Previously she had been head of the reference department of the Oak Park Library. She received her library training at Western Reserve University, Cleveland, and also studied at the University of Chicago

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# THE U.S. TREASURY SALUTES THE CHEMICAL INDUSTRY



## —and its people who buy Savings Bonds and strengthen America's Peace Power

Every family and every industry in this country benefit, directly and indirectly, from the work of our great chemical industry. Those whose lifework is in chemistry may well take pride in the vast good that stems from their profession. Thousands upon thousands of people in the chemical field are proud, too, of their share in America's Peace Power, for they are making regular purchases of U.S. Savings Bonds.

Buying Shares in America through the Payroll Savings Plan is a convenient and systematic way to practice thrift. It helps these patriotic people enhance their resources for home building, for education and for greater security after retirement.

If your company has not yet installed a Payroll Savings Plan, start at once. The easy first step is to telephone your State Savings Bond Director for the help he will give you, gladly. Or write to Savings Bonds Division, U.S. Treasury Department, Washington 25, D. C.



**JAMES C. VICKERS** is pictured here practicing his highly specialized skills in one of our country's great chemical plants. Mr. Vickers is typical of the thousands of expert workers in this field who are buying U.S. Savings Bonds regularly. Mr. Vickers uses his company Payroll Savings Plan to make regular contributions to the Peace Power of his country.



## NATIONAL SAFETY COUNCIL



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# THE SAFETY LIBRARY



Reviews of books, pamphlets and periodical articles of interest to safety men

By LOIS ZEARING, Librarian, NSC

## BOOKS AND PAMPHLETS

### Aeronautics

*Accident Prevention Handbook on Ground Safety.* Department of the Air Force. August 1, 1958. Superintendent of Documents, Washington 25, D. C. (Air Force Manual AFM 32-3) \$3.50.

*Airports for Jets.* John E. Peterson. 1959. 86 pp. American Society of Planning Officials, 1313 East 60th St., Chicago 37.

*Survey of Research Projects in the Field of Aviation Safety, 1959 Annual Supplement.* 85 pp. The Daniel & Florence Guggenheim, Aviation Safety Center at Cornell University, 468 Fourth Ave., New York 16.

### Cooperage

*Work Injuries and Injury Rates in the Manufacture of Cooperage.* U. S. Department of Labor, Bureau of Labor Statistics. 1959. 21 pp. Washington 25, D. C. (BLS Report No. 145).

### Electrical Industry

*Insulation Requirements of High-Voltage Transmission Lines for 115 KV To 460/500 KV.* P. L. Bellaschi. 1959. 11 pp. American Institute of Electrical Engineers, 33 West 39th St., New York 18. (Transactions Paper—AIEE Winter General Meeting, N. Y., February 1959). 40c to members, 80c to nonmembers.

*Safety In Industrial Distribution Systems.* (A Symposium) 1958. 24 pp. American Institute of Electrical Engineers, 33 West 39th St., New York 18. (S-108) \$1.

### Electricity

*Electrical Safety — Everybody's Problem!* 1958. 24 pp. American Institute of Electrical Engineers, 33

West 39th St., New York 18. (S-108).

*Polarity Grounding of Direct-Connected Television Receivers.* E. W. Besson and L. H. Horn. 1958. 6 pp. American Institute of Electrical Engineers, 33 West 39th Street, New York 18. (Paper No. CP 59-92).

*Some Aspects of Grounding, Insulating and Bonding in the Problem of Shock Hazards.* J. B. Hays, Bell Telephone Laboratories, 463 West St., New York 14.

### Gas Appliances

*Performance of Type B Gas Vents for Gas-Fired Appliances.*

May 1959. 303 pp. Underwriters' Laboratories, Inc., 207 E. Ohio St., Chicago, 11. (Bulletin of Research No. 51).

### Hospitals

*Manual on Use of Radioisotopes in Hospitals.* 44 pp. American Hospital Association, 18 E. Division St., Chicago 10.

### Mines

*Administration of the Federal Coal-Mine Safety Act, 1952-58.* 1959. 68 pp. U. S. Bureau of Mines, Publications Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa. (Information Circular 7902).

*Mining Methods and Costs, Baguio Gold Mine, Bogino, Luzon, Philippine Islands.* 1959. 47 pp. U. S. Bureau of Mines, Publications Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa. (Information Circular 7903).

*Titanium Electrorefining: Cathode Studies and Deep Deposition.* 1959. 11 pp. U. S. Bureau of Mines, Publications Distribution Section,

—To page 58

## Have Credit—Will Purchase

ARE YOU on the buy-now, pay-later kick?

Do you really expect to pick up the tabs?

Everyone is living ahead of his time these days. That is, enjoying pleasures and using up services that won't be paid for in months or years to come.

The car depreciates faster than the installments pay it off.

You don't have to start paying for new clothes until they're well worn.

Mortgage payments are just so much rent.

Payments on appliances barely end before repair bills pick up.

In effect, we're all living beyond our means and have to establish a speeding merry-go-round pace just to keep up.

The philosophy of the age is that of the sweet young thing, remarking to her husband, "If we miss the payments on the TV, the hi-fi, the washer and dryer, we'll have enough for a down-payment on a new car."

I had coffee with a friend the other Friday. We discussed savings and investment plans to aid getting the kids through school and help soften retirement expenses. The following Sunday he dropped dead, apparently in the prime of life. And, he was conservative in everything he did.

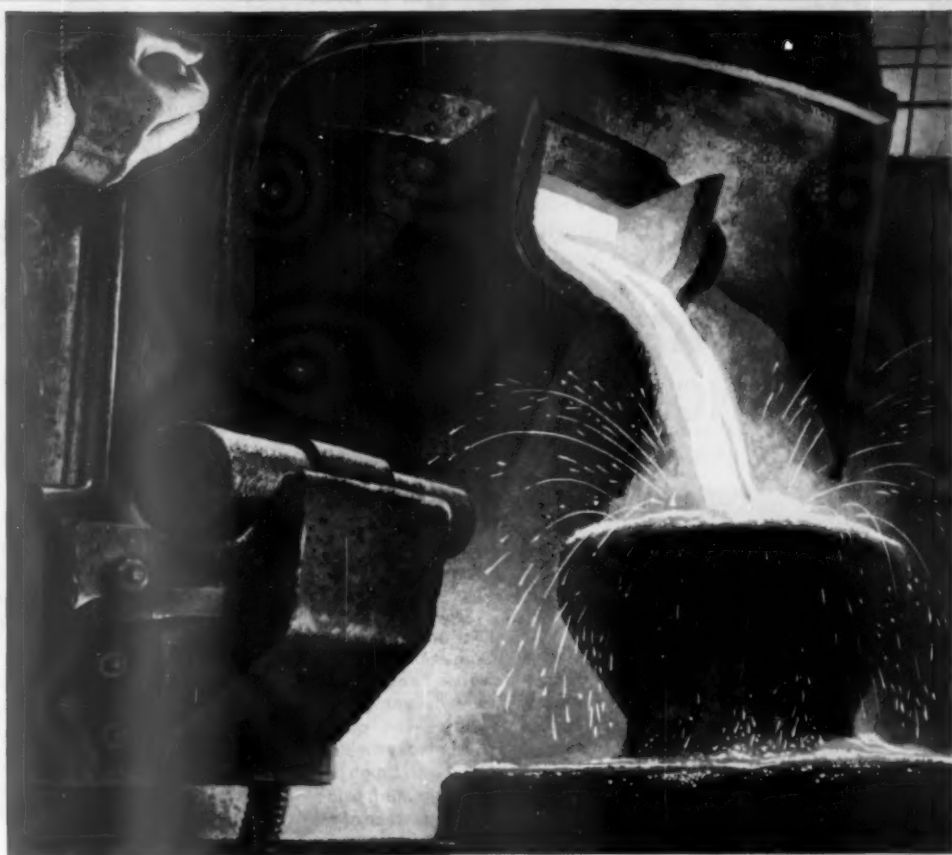
Now, I wonder, who will pick up his tabs, fulfill his dreams?

Many folks these days aren't satisfied with just taking the plain chances life deals them. They must shorten their odds by pulling dumb stunts of one sort or another.

If you're borrowing against your future, what kind of risk are you? Who'll pick up the tabs, if you get crippled up or knocked off?

ROBERT D. GIDEL





Melting furnace at Calumet & Hecla, Inc.—Wolverine Division, where Shell Iru Fluid 902 eliminates the danger of hydraulic line fires.

## Ready...aim... NO FIRE!

Take 10 high-temperature alloy-melting furnaces, hydraulically operated—each pouring 1500 lbs. of molten metal every hour in close proximity to “live” hydraulic lines—and you can readily see why selection of hydraulic fluids is important to Calumet & Hecla’s Wolverine Tube Division.

Now the operation is made more reliable by the use of Shell Iru Fluid 902, a water-in-oil emulsion type fluid. Iru Fluid was C & H’s choice, after carefully

studying other commercial hydraulic fluids—for many reasons:

1. Iru Fluid will not support combustion.
2. Iru Fluid has excellent lubricating properties.
3. Iru Fluid has hydraulic efficiency and equipment compatibility.
4. Iru Fluid is economical, costing about one-third less than other fire-resistant fluids.
5. Iru Fluid’s bright yellow color makes it easy to spot and trace leaks.

In plant after plant, operators find that these advantages assure maximum safety to both personnel and equipment.

If you have a hydraulic line fire hazard, we suggest that you have the Shell Industrial Products Representative show you the many advantages in Iru Fluid 902; or write to Shell Oil Company, 50 W. 50th St., New York 20, N. Y., or 100 Bush St., San Francisco 6, Calif. In Canada: Shell Oil Company of Canada, Ltd., 505 University Ave., Toronto 2, Ontario.

## SHELL IRUS FLUID 902

*the low-cost, fire-resistant hydraulic fluid*



4800 Forbes St., Pittsburgh 13, Pa.  
(Report of Investigations 5481).

#### Off-the-Job

*Uniform Hunter Casualty Report, 1958.* 24 pp. The National Rifle Association, 1600 Rhode Island Ave., N. W., Washington, D. C.

#### Radiation

*Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in*

*Air and in Water for Occupational Exposure.* National Bureau of Standards. 1959. 95 pp. (Handbook 69) Superintendent of Documents, Washington 25, D. C. 35c.

#### Resuscitation

*A Comparison of Mouth-to-Mouth and Manual Artificial Respiration Techniques.* Archer S. Gordon and Charles W. Frye. 1959. 9 pp. American Institute of Electrical Engineers, 33 W. 39th St., New York 18. (Transactions Paper

—AIEE Winter Meeting, New York, February 1959). 40c to members, 80c to nonmembers.

#### Workmen's Compensation

*Workmen's Compensation, A Guide for Employees.* E. Clark Woodward. 1959. 14 pp. Good Reading Rack Service, 76 Ninth Ave., New York 11. Single copy 8c.

#### MAGAZINE ARTICLES

##### Aeronautic

"Medics Give Tips for Safer Business Flying." *Business/Commercial Aviation.* June 1959. p. 31.

##### Building Codes

"States Step Up Control of Building." *Engineering News-Record.* May 28, 1959. p. 21.

##### Construction

"Tunnelers Dig Past Heavy Structures." T. J. Montgomery. *Engineering News-Record.* May 21, 1959. pp. 43-44.

##### Conveyor Belts

"Life Expectancy of Conveyor Belts Can Be Increased." Milton Beach. *Pit and Quarry.* June 1959. pp. 112-113.

##### Cooperation

"Collaboration Between Engineer and Industrial Medical Officer in Matters of Safety and Hygiene in a Large Undertaking." Jean Demarigny and Jean Lecocq. *Occupational Safety and Health,* Jan-Mar., 1959. pp. 11-19.

##### Economics

"Invest in Safety." E. G. Hutzley. *Supervisory Management.* June 1959. pp. 29-34.

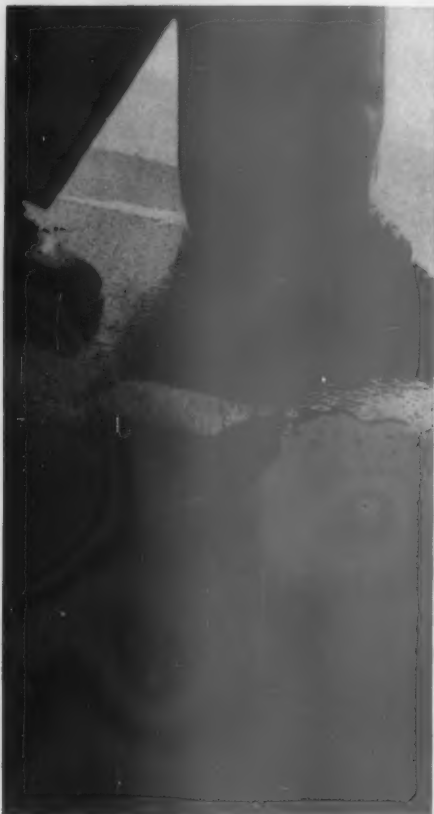
##### Falls

"Operation 'Upright' Stair Safety Program Reduces Slip Accidents at Rath Packing Plant." *The National Provisioner.* May 30, 1959. pp. 19-20.

##### Fire Protection

"Fire and Explosion in Metals. Part I." Paul F. DeGaeta and Arnold A. Weentraub. *Fire Engineering.* May 1959. pp. 376-377.

## OIL-COVERED AND DOWNHILL ...STILL NO ACCIDENT



Get Lasting Protection  
Against Slipping with  
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Disaster no longer lurks on the oil-splattered floor of this vital production area. Alcoa® Aluminum Abrasive Tread Plate makes sure it never gets a chance to strike—no matter how wet, oily or greasy the floor becomes. Made with tough particles of fused aluminum oxide, its hard, abrasive surface offers complete slip-proof protection. Lighter weight makes it easier to install. Corrosion resistance means virtually no maintenance. Longer, safer protection is assured, because wear serves only to renew the surface by uncovering embedded abrasive particles.

Protect skilled workers and avoid costly production breakdowns by installing Alcoa Abrasive Tread Plate in areas where slippery materials accumulate. For more information check the coupon below, write Aluminum Company of America, 1685-F Alcoa Building, Pittsburgh 19, Pa., or call your nearest Alcoa Distributor.



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Circle Item No. 21—Reader Service Card

"Oddity in Detroit." Paxton Mendelssohn. *Fire Engineering*. May 1959. pp 378-379.

"Toxicity of Fire Gases." Lester L. Williams. *Fire Engineering* May 1959. pp. 373-375.

#### Gas Industry

"East Ohio Talks Pave Safety Trail." *American Gas Association Monthly*. June 1959. pp. 12-13.

#### Ladders

"Cut Out Those Ladder Accidents." Alan D. Freas. *The Magazine of Standards*. May 1959. pp. 142-143.

#### Meat Packing

"Safety Strap on Sticker's Knife Reduces Likelihood of Cut Injuries at Oscar Mayer." *The National Provisioner*. May 16, 1959. p. 34.

#### Nurses

"A Nurse and School Safety." *American Association of Industrial Nurses Journal*. May 1959. pp. 20-21.

"The Nurse in Small Industry." Katharine A. Lembright. *The American Journal of Nursing*. June 1959. pp. 829-833.

#### Off-the-Job

"So You're Going on Vacation." James L. Goddard & Grace E. Mattis. *The American Journal of Nursing*. June 1959. pp. 836-839.

#### Plastics

"Under Fire Conditions Will Plastics Emit Toxic Fumes?" Frank Hanifen. *Fire Engineering*. May 1959. pp. 380-382.

#### Printing and Publishing

"Improved Push Button Controls Are Among Factors Affecting Press-room Safety." Roy P. Tyler. *The American Pressman*. May 1959. pp. 29-31.

#### Pulp and Paper Industry

"Employee Training—Why and How." F. M. Ladd. *Pulp and Paper Magazine of Canada*. May 1959. pp. 103-108.

"Safety Needs of a Growing Industry." *Pulp & Paper*. June 1959. pp. 80-82.

—To page 64



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Extensive research has shown that high noise levels can reduce efficiency and cause permanent hearing loss to your employees. Prevent expensive hearing loss . . . police your plant regularly with the H. H. Scott Sound Level Meter. This extremely compact H. H. Scott meter weighs only 2 pounds seven ounces, so it can be held and operated with one hand. Operation is so easy that non-technical personnel can learn to operate it in five minutes.

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# OFF THE JOB



## Safety programs for plant and community

By HARRY C. JOHNSON

NSC Staff Representative, OTJ Safety Committee

### Off-Job Conditioning Spurs On-Job Safety

PHYSICAL, mental and emotional conditioning off the job makes a direct, vital contribution to a worker's on-the-job safety record, according to W. O. Cottingham, superintendent of operations for Western Maryland Railroad. His comments are reprinted from June 1959 *WM Safety News*:

\* \* \*

If asked to sum up all his advice and counsel, based on findings of research into causes of accidents, any safety engineer will tell you a single word—"Think"—holds the key to safety in industry.

Posted on bulletin boards, in locker rooms, on assembly lines, in shops and in offices, this one-word message reminds everyone that for every accident there is a cause, and that recognition of the cause beforehand can prevent the accident.

Whether in postcard or billboard size, it shouts a warning to all persons that accidents are preventable, if workers will take time to think of their own safety and the safety of others.

This sounds as if the problem of accidents on the industrial front is licked, doesn't it? All we have to do is increase the number of "Think" placards and posters on display, and accidents suddenly will come to a halt.

But that's wishful thinking. Too much repetition in the use of the "Think" legend would cause it to go unnoticed, taken for granted. Workers would dismiss it on sight without reflecting long enough even to start the thinking process.

But would that be the answer? Even if there were reason to believe

that people would read and heed the signs, would they really be effective? Wouldn't it be like issuing rabbit's-foot good-luck charms to workers, in the hope they magically would protect workers from accident and injury?

No, safety isn't this easy. The word "Think" is effective as presently used, but we must recognize its limitations. To be safe on his job, a worker must think clearly as well as often. And how clearly he may be able to think at any given time depends on many factors. Most of them, however, can be summed up in one term: *conditioning*.

No sane person would get up from a sickbed and attempt to work an eight-hour day at strenuous labor. Many workers make similar attempts at doing the impossible by failing to keep themselves in good condition, physically and mentally, when *off* duty.

The employee who ignores the advice of a doctor regarding his own physical condition cheats himself even more than he does his employer. He also may wind up cheating his family out of a livelihood. By attempting physically taxing jobs at home despite a high blood pressure condition or some other presumably minor ailment, he may be bringing on a heart attack or other permanently disabling condition.

A man who permits his weight to increase from year to year, by eating richer foods and in greater quantities than needed for decreasing physical activity, unwittingly can be signing death warrants for his fellow workers.

At the time when quick, decisive action or thinking is required of him, he may be too sluggish to help avert an accident. He can be

just as remiss in allowing himself to become underweight and run-down from improper diet and inadequate rest.

No employer has a right to tell you how to live your life away from your job! But every employer has the right to expect an honest, conscientious day's work for wages paid. He has the right to expect an employee to think clearly and effectively and to act accordingly.

In addition to the effect of physical condition, the worker's ability to think also is affected significantly by his mental or emotional condition. Constant wrangling at home, meals made indigestible by heated arguments and pent-up feelings or hurt or remorse can make a man a robot on his job, responding to stimuli around him without actually thinking.

Problems in any home can be worked out and should be, even if it is necessary to seek professional counseling or other help. No employer wants half a man—at least not the half that's left over after self-confidence and self-respect have been drained from it.

In other words, good *safety posture* on the job depends largely on a worker's posture when he is away from the job. It is a myth to believe a man can be alert and thinking at his bench or at his desk for eight hours a day, then become a careless directionless mass of humanity for the next 16 hours.

All posture starts with a sound spine, and the entire body—figuratively and literally—functions best when that spine is straight and upright.

### Safety Is 24-Hour Proposition

Charles R. Neil, chairman of the NSC Mining Section's off-the-job committee, feels that safety is a 24-hour proposition. He says:

Nearly everybody knows that today people are safer at work than they are at home, or at play, or driving along in their shining automobiles.

At work they are generally aware that vigilance and care throughout the work day will guide them routinely through shift after shift unmarred by accident or injury. Records of 30, 40, and even 50 years



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Exclusive Hinged Bridge automatically adjusts so that one size fits all faces... broad or narrow, long or short. Replaces up to ten sizes of conventional safety spectacles.



#### MONOGOGGLE

All-around snug fit for complete closure, even over spectacles. Wide, distortion-free clear acetate lens. Ventilated, unventilated, and indirect models.



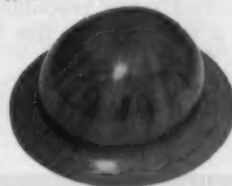
#### STREETWEAR-STYLE SPECTACLES

Handsome half-tone styles with choice of ebony overlay, shown above, or demi-amber overlay on crystal-clear frame. F7 lenses... plano or prescription.



#### GEODETTIC STRAP SUSPENSION SAFETY HATS AND CAPS

Full-protection safety hats... featuring "Geodetic" suspension for tamperproof protection against shock of impact. Phenolic, fiberglass, aluminum, and insulating types.



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#### WELDING HELMETS

Exceptionally strong and comfortable lightweight helmets. Durable one-piece seamless Fiberglass shell... nonwarping, moisture-proof, heat-resistant. Nine styles.



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Automatically shapes to the face to assure a positive seal, exceptional wearer comfort. B. M. approved for protection against all dusts, pneumoconiosis-producing mists, chromic-acid mist.



#### RESPIRATORS

One Willson #800C respirator does the job of nine for protection against all dusts (including radioactive dusts), mists, metal fumes, vapors, gases, when fitted with proper filter or cartridge.

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of work without injury confirm that employees can be safe on the job.

And if the individual is not alert and safety-conscious, he will soon be reminded by his fellow employees or supervisor that he is asking for trouble.

The application of a little common sense and strict adherence to prescribed safety procedures is all that it takes to keep free from injury. We all know that.

But what happens to people when the whistle blows and the timecards

are punched out? Do they take home what they have learned or leave it at the mine or plant? What about employees at your operation? Do you know how much safety instruction has rubbed off on them and is retained?

Are they safe because the employer wants them to be safe? Or are they safe because *they* want to be safe? Are employers really aware of all off-the-job injuries suffered by their men and what it is costing the company?

According to NSC figures, 28,500 employees in industry were killed in 1958 in off-the-job accidents and 2,200,000 employees suffered disabling injuries.

This represented 275 million man-days lost from work, but accounted for only the injuries reported to NSC. It is estimated that last year's total wages lost, medical expense, and overhead cost of insurance for work accidents amounted to \$1,950,000,000, while indirect costs of work interruption, replacement, etc. totalled an additional \$1,900,000,000—almost 4 billion dollars in all. These staggering costs cover only the 13,300 work fatalities and 1,800,000 disabling injuries reported.

It matters little whether the accident occurs on or off the job. The company's loss and the employee's suffering and financial loss are no less great. A skilled man is lost and must be replaced with an inexperienced man, and maybe the injured fellow employee will never work again.

Are you concerned with the safety of workers 24 hours a day? Don't you think it's about time you become alarmed and really concerned? Check your own company's experience. You'll be shocked. Then develop an effective, long-term off-job program for *your* plant!

*Now* **VI-LAN**  
**ANTISEPTIC  
PASTE CLEANSER**

**In the New  
Aerosol Can**

**98% Effective In Removing  
Foreign Matter From Skin!**

Helps prevent infection! Safely cleans from skin all types of foreign soils, tars, grease, paint, crater compounds, creosote, printing inks, rubber and gasket cements and other foreign "toughies."

**EASY TO USE**  
Just press the button! You'll have a proper amount of cream to use — economical — **NO WASTE, NO MESS!**

**VI-LAN** has passed clinical patch-testing. It has excellent bacteriostatic and bacteriocidal properties. Helps prevent infection. Excellent for use in hospitals, plant first-aid departments, clinical laboratories and in every doctor's office. Safely cleans heavy foreign soils from suture wounds, burns, cuts, sores, abrasions and lacerations.

Excellent for use in office and plant for removing printing and all types of reproducing inks.

May be used "with or without" water on face, hands and other parts of the body. Easily rinsed off with water.

**"It Cleans Where Others Fail"**

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## Railroads Honored For Safety Programs

Seventeen U. S. and Canadian railroads have been honored by the National Safety Council for outstanding public safety programs for the general public and their employees.

The Council's Public Safety Activities Award, designed to recognize and stimulate community safety work by railroads in areas they serve, went to:

Atchison, Topeka and Santa Fe Railroad System  
Atlantic Coast Line Railroad Co.  
Baltimore and Ohio Railroad Co.  
Canadian National Railways  
Canadian Pacific Railway Co.  
Chesapeake and Ohio Railway Co.  
Chicago, Burlington & Quincy Railroad Co.  
Delaware & Hudson Railroad Corp.  
Duluth, Missabe and Iron Range Railway Co.

Elgin, Joliet & Eastern Railway Co.  
 Illinois Central Railroad  
 Pennsylvania Railroad Co.  
 St. Louis-San Francisco Railway Co.  
 Soo Line Railroad  
 Southern Pacific Co.  
 Texas and Pacific Railway Co.  
 Union Pacific Railroad Co.

Among activities recognized by the award are off-the-job safety programs for employees, cooperation with local safety councils and civic groups, participation by railroad personnel in community safety activities, and attention to public safety in institutional advertising and public information work.

Judges of the noncompetitive award were the Rev. W. Henry Shillington, Church Federation of Greater Chicago; Robert R. Hume, director of publications, Northwestern University Traffic Institute; Carl Shubert, personnel director, Lakeside Malleable Iron Co., Racine, Wis.; Charles Michalski, traffic engineer, Citizens Traffic Safety Board, Chicago, and Mrs. Marie Daugherty, American Farm Bureau Federation.

## Seat Belts for Tractor Drivers, Too

Seat belts are now available for tractor operators, providing safety when working over rough terrain.

The belt is designed to hold securely, yet allows the operator to instantly disengage the belt fastener which incorporates an over-center latch. The fastener connects the belt at its midpoint and requires



no "threading" as is required with buckle type belts.

The belt was designed for Caterpillar-built track type tractors and attachments are available for current and former models.

## Expensive Ignorance

Plants are penalized insurance-wise on account of ignorance about fire, Keith Royer, supervisor of firemanship training at Iowa State College, told the recent 3rd Annual

Meeting of the National Fire Protection Association.

Too often management assigns fire protection responsibilities to those who have no interest in them, regarding fire safety matters as necessary evils—until a disastrous fire occurs.

Mr. Royer urged insurance companies and rating bureaus to recommend to these companies that they seek competent engineering service to reduce hazards and insurance rates.



## HE'S LOOKING FOR TROUBLE —

*and ready to handle it!*

**Of all protection devices,** only a human watchman goes looking for trouble. For example, he does more than detect and fight fires. He also prevents them by finding and correcting fire hazards before they blaze up.

**But if your watchman sleeps or skips rounds** when he should be working, your plant is open to disaster. You can prevent this by supervising him with a tape-recording DETEX GUARDSMAN

Watchclock. The GUARDSMAN gives you a tamper-proof, minute-by-minute, record of his devotion to his duties—even over long weekends and extended plant closings.

**The GUARDSMAN'S** extra capacity tape saves you overtime—makes it unnecessary for a supervisor to return on Saturday and Sunday just to change a 24-hour dial. Write today for complete information, no obligation.



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The Guardsman—and all DETEX dial-type clocks—are approved by Factory Mutual and Underwriters Laboratories. Their use often reduces insurance premiums.

## Safety Library

—From page 59

### Radiation

"Radiation Protection Laws and Codes—A Scramble for Action." W. A. McAdams. *Industrial Hygiene Journal*. June 1959. pp. 246-248.

### Railroads

"Labor Pushing 'Safety' Bills." *Railway Age*. June 1, 1959. pp. 10 and 33.

### Sanitation

"Package Trash in Plastic Bags for Safe and Sanitary Disposal." *Modern Sanitation and Building Maintenance*. May 1959. pp. 22-23.

#### ADDRESSES OF MAGAZINES MENTIONED

American Gas Association Monthly, 420 Lexington Ave., New York 17.  
The American Journal of Nursing, 2 Park Ave., New York 16.  
The American Pressman, Pressmen's Home, Tenn.

Business/Commercial Aviation, 205 E. 42nd St., New York 17.

Engineering News-Record, 330 W. 42nd St., New York 36.

Fire Engineering, 305 E. 45th St., New York 17.

Industrial Hygiene Journal, 1014 Broadway, Cincinnati 2, Ohio.

Industrial Nurses Journal, American Association of Industrial Nurses, Inc., 170 E. 61st St., New York 21.

The Magazine of Standards, American Standards Assn., 70 East 45th St., New York 17.

Modern Sanitation and Building Maintenance, Easton, Pa.

The National Provisioner, 15 W. Huron St., Chicago 10.

Occupational Safety and Health, International Labour Office, Geneva, Switzerland.

Pit and Quarry, 431 S. Dearborn, Chicago 5.

Pulp and Paper, 1791 W. Howard St., Chicago 26.

Pulp and Paper Magazine of Canada, Gardenville, Que.

Railway Age, Orange, Conn.

Supervisory Management, American Management Association, 1515 Broadway, New York 36.

interesting method of lifting. It is a British film produced for the Imperial Chemical Industries, Ltd.

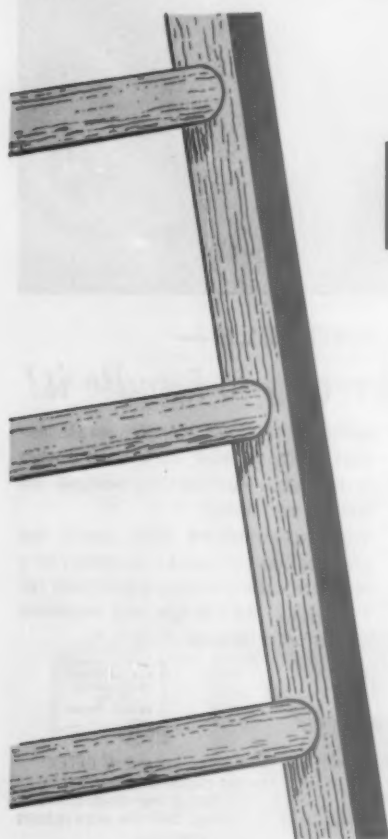
The film does not teach a method contrary to that known by most American safety engineers in which, "Lift with knees, keep the back straight, get a good grip, keep the load close to you," are standard instructions, but it also teaches the use of motion in lifting. The persons lifting catch up the load while they are in motion, and bring it up with the natural movement of the body.

The method seems to be one that can be best taught where employees are handling the same kind of loads repeatedly, such as grain sacks, which lend themselves readily to this kind of handling.

The film would be of interest to supervisors and employees in any American operation. It may be rented from the Film Library, Imperial Chemical Industries N. Y., Ltd., 488 Madison Ave., New York 22. Rental rates are \$4 for a three-day period or \$8 for a one-week period.

### Film Teaches Manual Handling Methods

*Kinetics in Manual Handling* is the title of a film that describes an



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## COMING EVENTS



*in safety and  
related fields.*

### Sept. 7-11, San Francisco

Annual National Technical Conference of the Illuminating Engineering Society (Fairmont and Mark Hopkins Hotels).

### Sept. 9-10, Toronto, Canada

Road Safety Workshops—1959. Sponsored by Ontario Department of Transport (Royal York Hotel). W. B. G. Reynolds, Commissioner of Highway Safety, Highway Safety Branch, Ontario Department of Transport, Parliament Bldgs., Toronto 2, Canada.

### Sept. 9-10, Harrisburg, Pa.

Pennsylvania Dept. of Labor and Industry Occupational Safety Conf. William L. Batt, Dept. Secretary, chairman, Room 1700, Labor and Industry Bldgs., Harrisburg.

### Sept. 9-10, Baltimore, Md.

Governor's Annual Safety-Health Conference and Exhibit. (Hotel Emerson.) Joseph A. Haller, executive chairman, Safety Conference, Dept. of Labor and Industry, State of Maryland, 12 E. Mulberry St., Baltimore 2, Md.

### Sept. 16, Rockford, Ill.

One Day Safety Seminar of Rock River Valley Safety Engineers Club. (Faust Hotel.) Leroy Friestad, secretary, Rock River Valley Safety Engineers Club, c/o Rockford Screw Products Co., Rockford, Ill.

### Sept. 17-18, Rockland, Maine

Thirty-second Annual Maine State Safety Conference. (Samoset Hotel.) Arthur F. Minchin, secretary, Dept. of Labor and Industry, State House, Augusta, Maine.

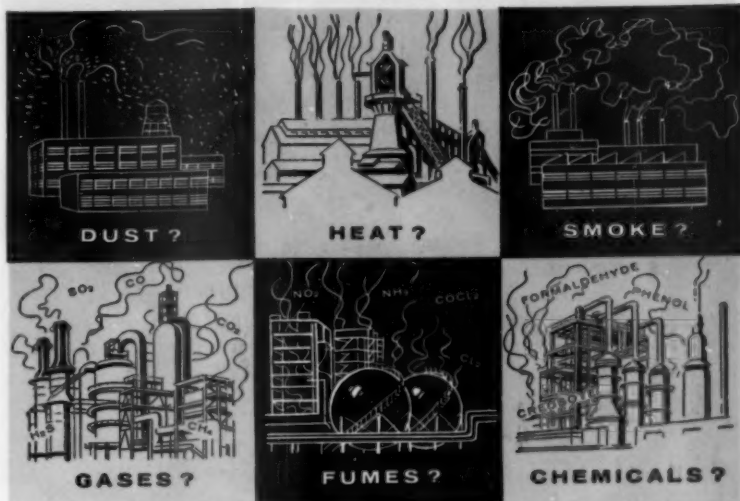
### Sept. 22-24, New York City

Fourth Annual Industrial & Building Sanitation-Maintenance Show and Conference. (New York Trade Show Building and New Yorker Hotel.)

### Sept. 29, Manhattan, Kan.

Tenth Governor's Industrial Safety Conference. (Kansas State Univer-

## What's the BREATHING HAZARD in your Industry?



## The Scott Air-Pak changes them all to a pure ocean breeze

Yes, whatever the breathing hazard, the man whose job it is to enter these atmospheres, breathes only pure, safe, cool air when he is equipped with the modern Scott Air-Pak.

The Scott Air-Pak uses certified, compressed air, therefore maintenance cost is exceedingly low as compared to other types of breathing equipment. Scott Air-Paks give the greatest protection at the lowest cost.

There is a Scott Air-Pak to meet every breathing requirement. Let us give you the complete story. Write us, or ask your nearest Scott distributor for the booklet, "Scott Air-Paks Save Money, Man Hours and Men for Industry."



Bureau of Mines  
Approval No. 1308



**"VISIBILITY UNLIMITED with the  
incomparable SCOTTORAMIC Mask"**

The new Scottoramic Mask adds another life-saving feature to the Scott Air-Pak. It affords unlimited vision in all directions for maximum safety — no old-fashioned "blind spots" to get the wearer into trouble.



SAFETY EQUIPMENT DIVISION

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Gunpowder mixing unit consists of two screw agitators housed in a one-inch-thick tally bowl. Top portion of the bowl and agitator troughs are fabricated of Ampco Metal plate; bottom ends are sand-cast of Ampco Metal.

## Makes explosives mixing less explosive!



One of two screw agitators cast of Ampco Metal and then machined.

### Hazards minimized by mixer of spark-resistant **AMPCO® METAL**

As a safety engineer, you know the value of using Ampco Safety Tools for low-cost protection in areas where a hot spark might cause fire or explosion. But did you know that the same metal used in these tools is often fabricated into equipment to reduce the hazards of dangerous manufacturing operations?

Take the job of mixing gunpowder, for example. It's such a touchy process that mixing areas are confined to concrete cells or blast-houses. Because the ingredients in gunpowder mixes are so unstable, the greatest care must be exercised in using mixing tools.

That's why so many leading explosives manufacturers use mixers fabricated of Ampco Metal. It not only resists sparks—it also resists the corrosive and highly abrasive effects of gunpowder mixes. (Your production and maintenance people like that.) One powder-plant manager reports that his Ampco mixer has outlasted other types by two to one!

Does this suggest any application for Ampco Metal in your plant? Talk it over with your production men — and with an Ampco field engineer. Or write for details. *Ampco Metal, Inc., Dept. 208-H, Milwaukee 46, Wis. West Coast plant: Burbank, Calif. — Southwest plant: Garland (Dallas County), Texas.*

V-32



# AMPCO

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sity.) R. L. Warkentin, Commissioner of Labor, Department of Labor, 401 Topeka Blvd., Topeka, Kan.

#### Oct. 19-23, Chicago

Forty-seventh National Safety Congress and Exposition. (Conrad-Hilton Hotel.) R. L. Forney, secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

#### Nov. 4, Fort Worth, Texas

Fifteenth Annual Industrial Institute. (Hotel Texas.) L. W. Graff, Fort Worth Safety Council, Majestic Bldg., Fort Worth 2, Texas.

## Rescue Breathing

—From page 27

is difficult in many cases to detect minimal breathing or heart action. The heart rate, stepped way up in certain types of fibrillation, can be checked only by an electrocardiograph with a delicate tracing device.

While organized communities have trained resuscitator squads, small communities, lake resorts, and picnic areas are not so protected in cases of this type.

Until recently, the accepted forms of artificial respiration have been the familiar and somewhat inefficient pull-push methods; hip-lift, chest-pressure arm-lift, and back-pressure arm-lift. Recent work done by Dr. Gordon and his associates of Presbyterian-St. Lukes Hospital in Chicago showed the superiority of mouth-to-mouth resuscitation over the 35 per cent effective older methods.

Mouth-to-mouth breathing is not new. It requires no intricate apparatus (especially designed tubes are available) although for esthetic reasons, a handkerchief can be used. The method is the same as that used as far back as 1743 when a physician saved the life of an English miner by "blowing up his lungs orally." The patient is lying on his back, head extended, with the life saver along the side of the head.

The lower jaw of the patient is grasped between thumb and index fingers lifting it up. The other thumb and index finger are used to pinch off the nose. With an airtight natural apparatus and mouth-to-mouth contact short, regular, rhythmic breathing insures immediate inflation of the patient's lungs.

It is easy to feel the results of such inflation—the mouth is removed from the face of the patient giving time for the victim's exhalation.

This simple maneuver is repeated 15 to 20 times per minute. Remember, the important step is the elevation of the jaws and pinching of the nose.

Another article pointed out that the oral method could be used effectively on a 250-pound man by an eight-year-old child. Those of us who have tried the laborious, semi-efficient older methods appreciate the simplicity and effectiveness of this "newer" technique. The carefully controlled work done at the Baltimore General Hospital several years ago proved conclusively that this method, up to now more or less reserved for resuscitation of newborn infants, could be as efficient for adult rebreathing. An adult could easily rupture a newborn infant's lungs if the breathing were not carefully controlled.

Anyone faced with a breathing emergency should remember at all times to call a physician and municipal or Red Cross resuscitator squad if available. Also remember that the layman cannot accurately determine the respiratory status of a recently-rescued victim; it is always safer to attempt mouth-to-mouth breathing after rapid clearing of the mouth of any obstruction.

Finally, keep in mind that the margin of life or death can be up to five minutes, but in many cases the patient may have minimal ventilation actually extending this time element up to 15 to 20 minutes. Once the respiratory center and lungs have been rejuvenated, it is unusual for secondary respiratory failure to take place.

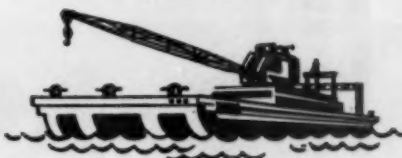


"Yes, now that you mention it, I have been shocked a few times."



## SAVED with RES-Q-PAK®

says Paul Flynn  
of Underwater Service, Inc.  
Duluth, Minnesota



"Recently, we constructed a water supply line into Lake Superior. Equipment was towed, morning and night, about two miles from harbor to job-site, and a mile off shore in one area. One morning the tug had the derrick and pile-driver barge on a stern tow line. George Wilson, one of the riggers, fell about 20 feet from up in the pile-driver leads. Returning to Wilson, required ten minutes, a total of twenty minutes that he had been in icy water. When Wilson was picked up he was swimming for shore on his well-inflated Res-Q-Pak. His legs had started to cramp, and he doubted that he could have stayed

afloat much longer without the aid of Res-Q-Pak."

Res-Q-Pak is no bigger than a pack of cigarettes, weighs only four ounces. Will support a 250 lb. man for hours. Sold individually at \$2.98 each (slightly higher in Canada). Military type Res-Q-Pak also available at \$5.00 each. Contact your distributor or write direct.

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**KLEAR-VU SAFETY MIRRORS** are the answer to the dangerous blind corner problem in your plant or warehouse. They are also adaptable for outdoor use in your parking lot, loading dock area or other points where traffic converges.

Mounted at cross aisle intersections, entrances and exits at a height of 8 to 10 feet, Klear-Vu Safety Mirrors clearly reflect oncoming intersection traffic to both power truck operators and pedestrians.

Available in either convex or flat glass styles, the mirrors are easily installed and quickly adjustable to any desired angle.

Style	No.	Dimensions
Circular Convex Glass	120	12" dia.
Circular Convex Glass	180	18" dia.
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## The Depot Story

IF YOU'RE a Navy man and you know your signal flags, you'd have recognized a message recently hoisted aloft at the Naval Supply Depot, Great Lakes, Ill. The message read "3-6-5"—the number of days passed without a disabling injury to any of the Depot's personnel—military or civilian. (An appropriate posting on the organization's safety scoreboard also marked the event.)

The Depot is a large activity, supplying thousands of items required by naval establishments, equipment, and personnel. To do this, it has 824,000 sq. ft. of enclosed floor space, 33 buildings and a compound spread of 94 acres. In 1958 these facilities handled more than 180,000 material-tons of supplies—items ranging from clothing, food, and office articles to electronic equipment, hardware, and petroleum products.

### By ROBERT S. KRUEGER

Head, Safety Div., Consolidated Industrial Relations Dept., Naval Supply Depot, Great Lakes, Ill.

Most safety problems found in materials handling have occurred in this operation, offering major challenges in accident prevention work. Summing up results, the Depot safety program reduced the disabling-injury rate from 6.22 in 1957 to an accident-free record in 1958.

This took place under circumstances where improvement had to take place without dramatic change. The reason: Safety in the Navy Department is stressed heavily and is controlled with a detailed system monitored by adequate instructions and manuals. The majority of requirements are *musts*. This allows but small room for changing or adding techniques.

Yet, the Depot's zero frequency rate has survived for more than 400 days—topping 1¼ million man-hours and a full calendar year.

To start with, Rear Admiral H. F. Kuehl, SC, USN, commanding officer of the Depot, determined to get the job done. He provided top-level support—a requisite of any successful safety program.

Rear Adm. Kuehl used available communication media, reaching each level of personnel. Announcements appeared in the station magazine, *The Depot Diary*, and were broadcast on the public address system.

Inter-unit safety competition developed through an award system, with the "Admiral's Award" recognizing good performance, and the "8-Ball" pin-pointing weak showings. Trophies were presented at regular meetings of the Depot Planning Council once each quarter.

Even with full command support, the big job of investigation, analysis, and planning of the revised prevention program was necessary. Causes of major accidents showed no significant trends. Minor and first-aid injuries gave no firm indication of specific hazards and correctable situations. Many accidents were unusual, not common to their operations or traceable to conditions in a certain area.

Elements of a standard Navy Department program had been established at the Depot, but many fea-



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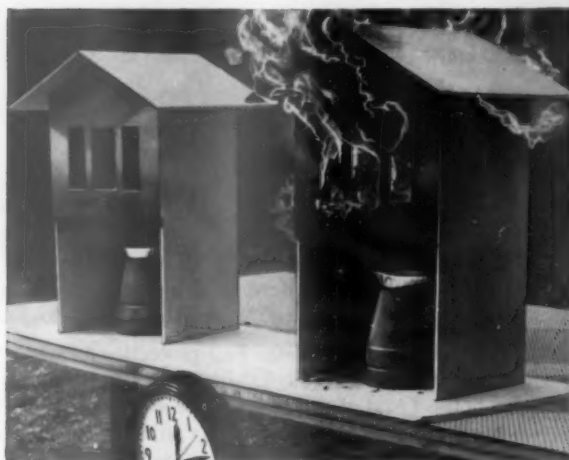
## Tests prove new Du Pont paint retards fire!



**1** Pictures of actual flame test. Interior of house on left is painted with Du Pont Fire Retardant Paint. House on right has conventional paint. Match is set simultaneously to alcohol containers in both houses.



**2** After six minutes' exposure to alcohol fire, there is little difference in external appearance of the houses; however, flames are beginning to spread through the house covered with conventional paint.



**3** In minutes, the conventionally painted house is a mass of raging flames. Note that the house covered with Du Pont Fire Retardant Paint withstands flame spread. Gives the "5 minutes" delay firemen need to gain control of a serious fire.



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tures were in need of careful review and improvement. Naval Supply Depot records, however, did not lend themselves to the usual safety techniques—studies of accident analyses that help to spot weaknesses. Another approach had to be found.

Navy Department form NAVE-XOS 1924, *Safety Organization and Program Appraisal*, seemed tailor-made for the job. It became a basic tool. This form, allowing thorough investigation of all facets, is divided into 10 broad categories and more than 100 individual items. Headings include, among others, organization, administration, personal protective equipment, training, and publicity.

A special committee convened. It consisted of representatives of management, operating departments, planning, public works, and safety committees. It took a cold, hard look at points in the safety program which had been considered acceptable or had been glossed over as "unchangeable."

The commanding officer approved recommendations to correct all deficiencies. This resulted in an out-

line for a full schedule of difficult detailed work, which took months to complete, in addition to conducting routine safety operations.

In strengthening and streamlining procedures, in revising broad programs, nothing dramatic or revolutionary developed. Changes depended on standard management improvement methods, well known in good business practice.

An initial adjustment of the safety officer's function permitted him to give more adequate attention to program details.

Also, foot protection activities were found unsatisfactory. Hazards of supply and material handling operations, checked job by job, showed possibilities of foot or toe injury. Rules announced required use of proper protection in a selected list of occupations. Better procurement service for safety shoes and toe caps resulted.

Training schedules were examined and altered. Workers received weekly five-minute stand-up safety talks. These were on a planned schedule and related specific jobs. Supervis-

ors took part in a broad program of development training in industrial relations topics.

Educational and promotional projects became more realistic. One such arrangement used the combination of an appropriate film tied in with selected pamphlet handouts, banners, and posters to emphasize specific control methods for actual job hazards.

The appraisal committee, reviewing the physical status of Depot buildings and premises, made suggestions to eliminate and control substandard conditions. Continuing inspection coverage dovetailed with methods for accomplishing required corrections.

Motor vehicle safety problems were considered, along with the Navy system of incentive awards for operators of federal vehicles, as applied in the Depot program. Procedures improved for maintaining basic records, checking driving performance, and presentation of awards. A new accident analysis method was started.

Announcements, leaflet handouts,



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articles in *The Depot Diary*, posters, and other media promoted safe off-duty driving of privately-owned vehicles. With payroll inserts, this problem received special emphasis on holidays.

Safety committees reorganized to permit the most effective representation of departmental units. In the Navy standard program these are in an integrated system which coordinates safety through shop, supervisor, and policy committees.

Each Depot committee changed

its methods to eliminate its own shortcomings. For instance, committees adjusted membership lists, made project assignments, and arranged for closer advisory guidance.

Development of these changes and integrating them into the Depot accident prevention system became the work of the safety committees, safety officer, supervisors, and the Industrial Relations Department.

With the backing of the commanding officer and his staff, the necessary changes *did* take place,

and the record stands. Currently, the Depot is plotting a course to a point on its safety map where it can hoist "7-3-0"—doubling its one-year mark.

## Report Progress in Paraplegic Care

Progress made in rehabilitating paraplegics and quadriplegics at leading medical centers of the nation has been praised by an insurance industry spokesman, who reports that modern therapy practices now make it possible to restore a majority of these patients to limited activity.

J. E. Linster, vice-president in charge of claims for Employers Mutuals of Wausau, cited eight rehabilitation centers for outstanding contributions. Included were: The Institute of Physical Medicine and Rehabilitation at New York University's Bellevue Medical Center; Kessler Institute for Rehabilitation, West Orange, N. J.; Mayo Clinic, Rochester, Minn.; Jewish Hospital of St. Louis, Mo.; California Rehabilitation Center in Vallejo, Calif.; Baylor University Hospital, Dallas, Tex.; The Bay State Medical Rehabilitation Clinic, Boston, Mass.; and Duke University, Durham, N. C.

Of 56 Employers Mutuals workmen's compensation policyholder employees who sustained paraplegic and quadriplegic injuries during the past nine years, 42 were sent to the eight rehabilitation centers specializing in this type of case. Rehabilitation has been successful in 27 cases, with seven of the employees returning to full-time work, and the others "reasonably active" in home and community.

Since many medical experts believe the paraplegic and the quadriplegic have the same life expectancy today as the average person, Linster estimated that savings in medical costs on the 27 successfully rehabilitated cases would amount to millions of dollars. He credits the skill and patience of rehabilitation center personnel and the insurance firm's team of specialists for these recoveries. Attitude of the individual patient also was important in degree and speed of recovery, Linster said.



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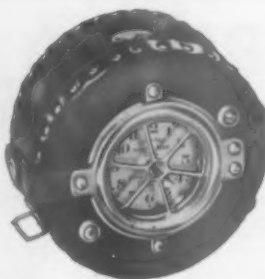
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## **PRESENTATION IN SAUDI ARABIA**



HOWARD PYLE, president, National Safety Council (left), and D. N. Ezzell, Ras Tanura district manager for Arabian American Oil Company, display NSC Award of Honor near oil storage tank bearing safety sign in Arabic and English. Aramco President Norman Hardy accepted the award from Pyle in Dhahran, Saudi Arabia.

The award was in recognition of an accident frequency rate of 3.1, as compared with 4.3 for the previous year. Aramco's rate was under its own rates for the three previous years and below the average for the petroleum industry as a whole.

During the six-day tour, Pyle also awarded the Ras Tanura refinery district two separate awards—an Award of Honor to the Dhahran headquarters and an Award of Merit to the Abqaiq oil producing district. Between September 30, 1958 and January 26, 1959, employees of Ras Tanura worked nearly 3,000,000 accident-free man-hours.

Top photo shows Aramco employees attending presentation ceremony.

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# The Journal

## OF THE AMERICAN SOCIETY OF SAFETY ENGINEERS

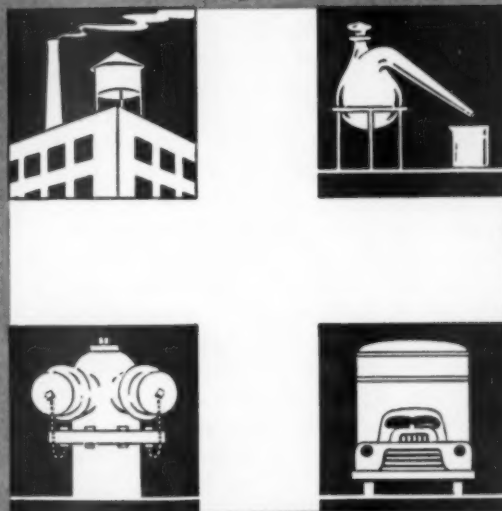
### In this issue

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AUGUST, 1959

## Articles Discuss "Basics" Of Safety Programing

■ Successful safety programs must be based on the "tried and true" fundamentals, as Society President Donald G. Vaughan points out so ably in his editorial on page 33 of this *Journal* issue.

It seems logical, therefore, for all of us from time to time to review some of these basic principles, methods and procedures—no matter how far we may have advanced professionally.

Implementing this thought, the *Journal* is presenting, in this issue, two articles which deal with vital aspects of an industrial accident prevention program.

Training of supervisors and workers to develop sound attitudes and practices is reviewed by one of the nation's foremost training directors, Ralph M. Hartmann, immediate past president of the American Society of Training Directors, in "Is Training for Safety Different from Other Training?" on page 34.

"Selling a Safety Program to Top Management," another essential for success in safety work, is discussed on page 43 by Joseph A. Menendez, past general chairman of the Society's St. Louis Chapter.

A third article in this issue also might be said, with slightly different meaning, to deal with a basic subject—inclusion of safety considerations at the design or drawing board stage. "Planning Safety into Automation," on page 37, is authored by Thomas E. Seavey, master mechanic for Pontiac.

All three of these articles have been adapted from addresses made by the authors at the 1958 National Safety Congress, in sessions arranged and sponsored by the Society.—Editor

## AMERICAN SOCIETY OF SAFETY ENGINEERS

Organized 1911—Chartered 1915

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## OUR PRESIDENT SPEAKS ON SAFETY

**R**ECENTLY I READ the following comment:

"Building codes . . . are dull reading, just as technical considerations of most building materials lack the glamour that is attached to more recent developments in other branches of technology. All of us are familiar with the wisecracks made by amateur observers of the building scene to the effect that we still build houses of bricks and mortar just like the Romans. These same people choose to forget that fortunately we still take hot baths, just like the Romans! There are others who make similarly snide remarks about wood as an outmoded material. The ignorance of such speakers is betrayed by their own words since wood still remains one of the most wonderful of all building materials, stronger pound for pound than steel, an excellent insulator in contrast with other structural materials and one that can be readily and easily worked. Similar comments can be made on other 'conventional' building materials. I often am puzzled by the prevalence of the view that just because a thing is old it is necessarily bad and that just because something is new it must be good." \*

This statement could have been made concerning accident prevention methods. The safety engineer, to be successful, must use many of the same safety rules and principles that have been fostered for 30 years or more. Underlying each safety program are a few basic items, such as top management interest and active participation, proper selection and training of workers, adequate machine guarding, effective accident investigation and follow-through. We have been talking, preaching and teaching these principles for many years. Being "old stuff" does not make them any less important. In fact, we have no new fundamentals for a well rounded safety program.

\*From "Common Sense and Building Materials," an address by Robert F. Legget, director of the Division of Building Research, National Research Council of Canada, at the February 4, 1959 Building Materials Industry Luncheon in Pittsburgh, Pa., sponsored by the American Society for Testing Materials.

What then is new? The means and methods of selling these basic ideas.

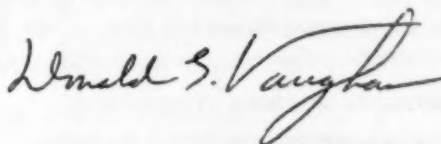
Accident prevention work has increased in recognition and importance because we have found new and better ways to sell our wares. Recognizing the basics as "old stuff," we know we must wrap them up in a new and more attractive package—one which will have considerable public appeal. We can make these old ideas appear to be new by modernizing our approach, by using the new methods of sales and personnel handling, by incorporating new ideas of management operations.

Safety often has been tagged as a dull subject. Its successful application is not startling, nor does it bring glamorous news headlines. (If accident prevention is unsuccessful, however, many times resulting fatalities and serious injuries make dramatic headlines.) But some favorable newspaper stories have resulted from awards and other forms of recognition bestowed for outstanding safety performance.

Engineers take pride in their training and its emphasis on "getting the facts." Important as facts are, though, in themselves they often are dry reading. The successful safety engineer certainly must apply his engineering training and secure the facts. He must set up the basic principles, even though they are "old stuff," and build his safety program around them.

And after he has established the basic principles, the safety engineer then can go on to find new selling and training methods, keyed to sell top management, supervisors and workers on the "old stuff," the fundamentals which all safety engineers have known and used for years.

As the quoted paragraph above has so aptly stated, don't think that because it is old it is necessarily bad. If the method is sound, use it but remember that, because safety can be a dull subject, it must be brightened up with new wrappings so that it can be sold adequately.



DONALD G. VAUGHAN, PRESIDENT  
AMERICAN SOCIETY OF SAFETY ENGINEERS



## **IS training for SAFETY**

---

### **different from other training?**

---

*author reviews problems of safety training  
and urges integration into overall job instructor  
training program for industrial supervisors*

**A** TRAINING MAN is not simply a training man for quality or production—or even safety. Training must reach into every phase of our working life. It will serve no purpose to train a supervisor merely in job instruction methods and neglect to train him in basic principles of management. Similarly, it is unwise to teach employees production methods without also coaching them in the safeguards that will assure continuity of operation.

In addition to my duties as manager of training and development for the Quaker Oats Company, I am responsible for the functioning of accident prevention effort throughout the Quaker organization. We do not find this inconsistent, nor is safety just an "added duty," because we consider that safety is *one* of several factors that must be built into our operation.

#### **EMPHASIZE INDIVIDUAL RESPONSIBILITY**

The more we have studied the problem of accident prevention at Quaker, the more we feel that success in safety is the product of an environment which emphasizes individual responsibility—exercised at all times and at all levels. It follows then that safety training should be so directed as to assist all people in the organization in discharging their safety responsibility; i.e., to get as many peo-

ple as possible to perform, in the right way, the work assigned to them.

Now, back to the question, "Is training for safety different from other training?"

Today there is no universal agreement among professional training people as to the best methods, materials, etc., to be employed to meet every training need. Then surely there can be no general agreement among training people on this particular subject. My personal opinion is that training (as such) for safety is not different from other training.

#### **REQUIRES SPECIAL APPROACH**

However, in the *approach* to safety training, in preparing for and conducting safety training, obviously some different considerations must be kept in mind than if one were, for example, preparing for and conducting training to make people more quality or cost conscious.

Let me suggest we handle our discussion of this



Ralph M. Hartmann has been manager of training and development for Quaker Oats Company since 1945. Holding a master's degree from the University of Nebraska, he spent 16 years as a public school teacher and administrator before joining Quaker as a plant training director in 1942. He is immediate past president, American Society of Training Directors.



subject in somewhat this manner. First, let's review a few of the considerations we should keep in mind when we are preparing to do a safety training job. Then, let's examine and discuss a number of specific questions on the subject of safety training. This procedure may help you individually to explore this subject as it applies to your immediate circumstances, so that you may find your own answer to the question, "Is training for safety different from other training?"

Let's take a look at some of the special problems or considerations we should keep in mind when preparing for safety training work.

1. The modern conception of accident prevention seems to identify it as a major executive problem. If so, it then follows that management must be responsible for the formulation of broad, all-inclusive safety policies and provide an organizational structure which will make possible and encourage an effective safety endeavor.

As safety men, do we do the informing, educating and training of our executives so that they have an appreciation of their safety responsibility and the safety job they must do? This means special training for executives is necessary.

2. Another generally accepted concept, to which we subscribe, is that the direct responsibility for safety is in the line supervisors. More and more, management is realizing the dominant position occupied in industry by supervisors and foremen. However, before safety training can be effective with the foremen, this concept must be known and accepted by foremen and supervisors alike.

3. Another point on which there is considerable agreement is that safety, to a large degree, is pretty much a matter of attitude—a state of mind—on the part of an individual. An important phase of the training job is to instill safety consciousness into the individual workman. How many training and safety men consciously consider this factor when preparing for and conducting safety training?

4. In most instances, the mental resistance of the trainee to the subject of safety is greater than the normal resistance to production or quality training; the people to be trained very often are not in a receptive frame of mind. More than in any other area of training, we encounter the attitude that "safety is sissy stuff," "I don't have the time," and so on, which professional safety men know all too well. We must study and know our trainees.

5. Another factor, which has much to do with the receptiveness of individuals to safety training, is the concept that safety is primarily a matter of converting faulty physical conditions. Regardless of all the seemingly convincing data that has been published, industry still devotes a very substantial part of its accident prevention effort to physical conditions. We need to overcome this concept. Steady improvement of physical conditions is a must but, while doing this, we must guard against creating an impression that this is the whole answer to our safety problem.

6. In many concerns, training for safety still is handled on somewhat of an amateur basis. Professional training in industry has made great strides in recent years but much of it has been concentrated on production, management techniques, etc. I also have notice that, in some companies where group training is conducted for safety, the same amount of time, attention and expense usually is not given to the preparation of training materials for safety as is done preparing for other types of training.

7. One additional thought: in our safety training work have we been emphasizing too much the penalties, suffering, etc., that could occur if we do not perform our job correctly and safely? Would our people be more receptive to safety training if it stressed, rather, the *advantages* to working safely?

8. And probably the most important single factor that must be considered when planning safety training activities is *participation*, perhaps the most effective technique known that can be utilized to gain cooperation and acceptance by fellow workers in your accident prevention work. Participation helps to bring about a mutual desire, on the part of operators, supervisors and executives, to work closely together because it creates the conditions necessary for cooperation to occur. How often we proceed to build training activities, never thinking about involving the people to be trained, and then wonder why the training is not accepted enthusiastically!

#### EXAMINES SPECIFIC QUESTIONS

Now let's examine and discuss briefly a few specific questions on the subject of safety training.

1. Should training for safety be included with other job training? Does stressing safety confuse job sequence while training? Since safety can be achieved only as the job is being done and is an inherent part of the job, then surely safety training

should be a part of job training. This should be the responsibility of the individual's immediate supervisor.

I see no reason why stressing safety, as it relates to job operation, should in any way make less effective the job instruction. However, I see no particular reason why the safety aspects of the job should be emphasized any more than the quality, quantity and other phases of the total job operation.

As regards training to create a safe working attitude in a new employee, more must be done than the safety training provided in connection with on-the-job training. Probably the best time to start this type of training is immediately after a man has been hired.

An effective safety indoctrination program, utilizing various visual aids, first aid and fire equipment and covering a variety of subjects, would be helpful. The objective of such a program should be to create in the mind of the new employee a sense of belonging to a group of people who are interested in their safety as well as that of fellow workers.

**2.** Another question: "Should training for safety be handled by the supervisor or by the safety man?" We have touched upon this point. Since the supervisor is the man who tells the worker what to do—and normally he will do a much better job of following through on his personal instructions than on instructions given to his workers by a third party—then surely the supervisor should provide job safety training on an individual basis.

On the other hand, certain safety training activities may be handled better on a group basis (such as fire fighting, life saving techniques, proper lifting methods, etc.). Training of employees in such subjects by the safety man or other well qualified people usually is welcomed by supervisory personnel.

**3.** Some one asked, "How about handling safety training for particularly hazardous jobs as opposed to normal routine?" My reaction is that, as long as the regular supervisor supervises and directs the worker on this particular operation, the supervisor also should give the on-the-job safety training.

**4.** Another question: "Can we motivate for safety at the same time we train for production?" Surely we can and must. Safety performance is a factor considered in our annual job performance appraisal of all supervisory and management people. This is considered on the same basis as quality, meeting of production schedules and costs.

This helps to motivate supervision. Proper safety orientation training, effective job training and provision for participation in group and departmental safety activities will all be needed to provide necessary safety motivation to workers.

#### **MUST UNDERSTAND LEARNING PROCESS**

The supervisor who understands certain simple concepts regarding learning will save himself untold aggravations and insure more pleasant relations in giving instructions and supervision to his employees. If he understands the fundamental principles of learning, he will use his energy best in giving instructions.

Learning is a process of forming habits. This requires a series of actions or experiences on the part of the one who is learning.

Many things may be done or caused to influence the rapidity with which habits are formed, but it is fundamental that the learner must take part in the process physically and mentally. As many of the senses as possible should be supplemented effectively by an appeal to thinking for the most rapid habit-forming. Learning requires participation on the part of the learner as well as repetition, until the habit of following a sequence of actions is developed.

Certainly if supervision is to provide job safety training, then all supervisors should be trained in the techniques of job instructor training.

The question before safety and training people today seems to be, "How can we most effectively deliver the goods?" Industry demands from all of its functions, departments and services a good return for every dollar expended, including the costs for safety training. It is not a question of doing something in order to get something done for the record. It is a question of doing a needed job when it is needed and doing it well.

#### **SUCCESS DEPENDS ON WORKERS**

The success of safety training depends upon the changes that are taking place within the individuals working in the plant. Our success is measured in terms of frequency and severity. It is measured in terms of those in the plant who, as a result of safety training, habitually follow safe practices.

It is time we got our safety training into step with the age of automation. This, I believe, can best be done by not thinking of safety training as being different from other training. Training for safety can be accomplished most completely and efficiently when integrated into an overall, well organized, continuous training program.

by THOMAS E. SEAVEY

# PLANNING safety INTO AUTOMATION

**I**N THE PLANNING, designing and building of automated equipment for industry, safety has assumed equal importance with the life of equipment, cost, productive capacity and similar requirements, as seen from the buyer's viewpoint. Since the purchaser of new equipment is vitally concerned with safety, the automation manufacturer also has become concerned.

The ultimate user of this equipment is interested from a humane and economic standpoint. Safety no longer is a byproduct but has become a major objective of manufacturers. It is not good business to injure your employees when, through a concerted, conscientious effort, these accidents could be minimized or eliminated.

This is aside from the economic dollars-and-cents approach, in light of the rising insurance and compensation costs. The costs of an accident are not measured only in tangible black and white figures but also in hidden costs, suffering and sorrow.

Industry has been successful in meeting its problem to the extent that it now is far safer to be at your job working than to be at home. Statistics show that the home accident rate is many times greater than the industrial accident rate. A goodly portion

of this success can be ascribed to planning and forethought to prevent accidents before they can happen.

## ADVANCES BRING NEW PROBLEMS

Equipment has undergone an evolution to meet the needs of industry. Technical advances have been necessary to keep costs down and manufactured products within the reach of the consumer. Inherent in this evolution have been problems of control, lubrication, materials and safety.

The complexity of this equipment normally makes safety not only more necessary but also more difficult to attain. In the days of the simple drill press, an off-and-on switch was more than adequate from an electrical standpoint, with guarding at a minimum. Incorporating this drill press into an automated line multiplies the hazards many fold.

There are certain criteria that should be mentioned from a planning or design stage—keeping in mind, however, that no one set of rules can cover all eventualities in the design of a complex, special-purpose piece of automated equipment. Some rules will have to be violated in the interests of other considerations. Still, the hazard should not be allowed to exist. A new approach may have to be instituted to cover the particular application.

For purposes of discussion, the basic rules will be divided into three categories—general, electrical and mechanical.

## REVIEW GENERAL CONSIDERATIONS

Those safety considerations which cannot be classified readily as strictly mechanical or electrical will be examined as general recommendations.

There is, and always has been, a definite need for some signal to indicate that a piece of automatic equipment is about to be started. Due to obstruction of view, by its very nature automated equipment is difficult to clear visually before starting. A suitable audible signal should be installed in a timed circuit, compelling the operator to sound the signal before the machine will operate. Some manufacturers now incorporate these devices into their equipment.



Thomas E. Seavey, master mechanic for Pontiac Motors Division, General Motors Corporation, joined Pontiac in 1926 as a tool and gauge maker. Moving upward in the company, he was appointed to his present position in 1953, has taken an active part in Pontiac's post-World War II reconversion, including the installation of its highly automated V-8 engine plant.

For operation of automated equipment, air is not desirable from a safety standpoint. Air is difficult to control, compressible, easily contaminated and expensive. It is the difficulty in controlling and the compressibility that cause air to be inherently unsafe. Air-operated equipment may be shut down electrically and still be dangerous because motive force, air under compression, remains.

During sudden stoppages, when a part may be wedged into the transfer mechanism, unless the air system is bled the part or transfer mechanism can do great damage when released. This damage easily could involve persons releasing the stoppage.

Air operation varies with regard to control, due to moisture, drops in line pressure and subsequent

units through which the part is transferred, normally are designed so close to the minimum clearance that a serious pinch point is created (Figure 2). Attention to these factors during planning stages would eliminate many hazards.

Inspection gates should be provided on some types of automation. Many times, certain types of parts must be removed after a critical operation to determine whether the parts are being machined within limits. Provisions should be made for properly interlocked gates which would allow a part to be skidded or moved without the back-wrenching lifting that often is necessary.

Swinging or rotating type loaders or unloaders frequently are serious safety hazards. These loaders normally work very quickly and the cams, trip levers and control switches create a large number



Figure 1—Michigan Drill Head: Pinch point between slide and horizontal base support creates a trap for foot of unwary operator.

erratic action of air. There are instances when hydraulic equipment is not applicable and air must be used but, normally, air is not as desirable.

In the design stages, shear and pinch points in automated equipment are one of the most fertile fields for safety accomplishment. If machines could be designed more "wide open," it would eliminate some places where people can be trapped and a serious injury result.

Some machines are so designed that, on the rear of their horizontal wing units, a person could be caught between the returning head or slide and the supporting base unit. These areas or pockets, shown in Figure 1, require particular attention. They can be corrected by simple changes in the design stage.

Bridge supports used to maintain upper mechanical units, such as transfer bars and hopper feeding

of pinch points. This situation is compounded if the mechanism is operated by air. A piece of this type of equipment is virtually impossible to guard, particularly to protect the repair or setup man.

In the general machine setup, hydraulic lines, conduit and air lines should be kept clear of the floor to eliminate stumbling but also should be kept high enough to prevent hitting one's head on them. Pipes along the floor, or just above the floor, make too convenient a place to stand or lean. Usually, a worker easily can slip off of one of these pipes and injure himself.

Machines should be fitted with sensible guards that are a forethought rather than an afterthought. Some guards create a greater hazard than the hazard of the machine being guarded. Guards should be arranged so they can be replaced easily after tool



change or repair or they will not be used to advantage. A guard which is difficult to replace should not be used. Guards of expanded metal that permit visual checking of machine operation without guard removal are widely and successfully used.

#### DISCUSS MECHANICAL CATEGORY

There are a large number of safety considerations which fall into the mechanical category, even though the mechanical and electrical classifications often are tied closely together.

The majority of automated machines and automated equipment between machines is not designed or constructed substantially enough to withstand the stress imposed by mass production. Bracing, casting cross sections and screw sizes often are too light to retain their original alignment and ac-

been designed, built and put into service which require a very small man to make repairs and adjustments. Such cramped working space can only lessen safety.

Cylinders, fittings and lubrication facilities are placed in available space rather than in a planned location. Some cylinders have been so hidden as to require a major teardown to remove them for maintenance such as packing replacement (Figure 3). Some pieces of equipment appear to have been assembled around the milling and drilling heads, making them almost entirely inaccessible except from atop the machine (Figures 4 and 5). Working from atop a machine is a great hazard because coolant and lubrication cause unsure footing. A large portion of industrial accidents are from falls.

Machines built along these lines normally are

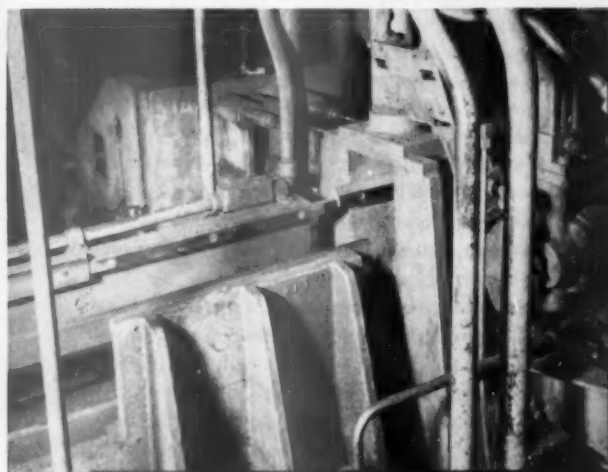


Figure 2—Barnes: When part being machined passes through bridge support, pinch point is created.

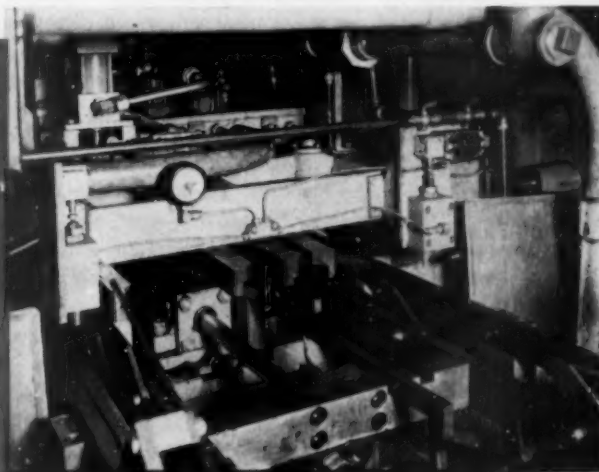


Figure 3—Michigan Drill Head: Hydraulic cylinder is located so as to make regular maintenance difficult.

curacy. Consequently, the twisting and moving of the equipment causes accelerated wear and reduced safety.

When weight is not a prime consideration, heavier construction almost always is advisable to preclude the possibility of permanent distortion when the unusual occurs, such as jams, wrecks, broken parts or cutters and sudden stoppages.

While equipment is on the drawing board, the shop maintenance man frequently is the forgotten man. An objective that normally is considered all too infrequently is accessibility for repair. This applies even to accessibility for minor adjustment which must be made relatively often. Machines have

hazardous even for a jobsetter to change and set tools. Machines which must be climbed onto for changing or adjusting tools or fixtures are not uncommon. Built-in walks or stiles on machines of this nature do much to reduce this hazard. Walks or steps of smooth metal are almost as poor as none at all, however.

There are materials on the market, of the expanded metal type, which are excellent for the fabrication of stiles or walks. These materials retain their skid resistance even after long use. The walks do not become hazardous from oil, water or other material which would cause a surface to be slippery (Figure 6).

Hydraulic equipment on automation or automated equipment always should be run on minimum pressures or only enough pressure to overcome operating resistances in normal operation. Operating equipment at abnormally high pressures causes undue strain to the structure of the equipment and, in sudden stoppages, could multiply the damage and subsequent hazards.

All hydraulic equipment should be banded or otherwise permanently marked for proper operating pressures and settings. This procedure, in addition to its safety benefits, many times aids in trouble shooting because it indicates conditions of abnormality that point toward possible maintenance problems.

In addition to identifying pressures, it is wise to have indicated on the control valves the direction of motion of the element controlled when the valve is manually operated in a particular direction. Many times solenoid-controlled valves must be moved manually for some reason of setup, checking after a repair is made or, most important, releasing someone caught in the machine. To know which direction the transfer bar will operate when the valve is manually pushed in one direction or the other is very valuable and, in some cases, could mean the saving of an arm, a leg or a life.

Regarding lubrication, a central lubrication system on a machine or piece of automation almost is a "must." The day of the individual fitting or oil cup long since has passed. Although central lubrication has been a long step forward toward safer maintenance of equipment, there have been other hazards that have accompanied its use. The control

of lubrication systems of the various types sometimes causes the use of too much lubricant, which finds its way to the floor and creates its own hazard.

A possible solution to the problem is that all ways and other surfaces involved in expended lubrication be provided with drain troughs channeled into a tank or system through which the surplus lubricant can be controlled. Many plants make use of this expended lubricant in the reclaiming process, in which quantities of cutting oils are made. Certainly, in any event, provision should be made to prevent this material from creating an additional hazard.

All filling facilities on central systems, hydraulic systems and grease fittings should be arranged, depending on application, to be out of the danger areas of an operating machine. Almost all of the lubrication of equipment is accomplished while it is in operation.

Overhead automation with lubrication facilities, and even air line lubricators, should be serviced from the floor level rather than having workers use ladders or climb onto the equipment. There are air line lubrication systems in use that can be filled automatically from a central tank at floor level, keeping the level in the lubricators overhead at a working level without the hazardous necessity of climbing up to them.

Washers built as a part of an automated line are cause for a possible accident if the inspection or access doors have been removed while the equipment is potentially operative. Should the rest of the line cycle cause the washer to operate with these doors open, serious injury could result. Access or inspection doors which, if left open, could cause injury should have the steam valves, pumps and



Figure 4—Burr: Milling and drilling heads are inaccessible except from above, where footing conditions are dangerous.

other apparatus tied into a safety circuit controlled by limits on these doors. Thus, if a door were open, even if the rest of the line cycled, the washers would be inoperative—a situation true of much of the new automated equipment.

A section will appear harmless because of a condition elsewhere on the line, when actually it is much like a loaded gun waiting to be triggered.

In fixture design, the use of controlled air blow-offs to clean locating pads often is a safety feature. Here, there is no necessity for the operator to reach into the machine with risk to himself to clean the locators. Properly placed and controlled, these devices are an advantage.

#### POINT OUT ELECTRICAL NEEDS

Electrical automation safety leaves much to be improved. It appears that, although there is some effort toward standardization, safety is not always a prime objective.

Many plants have a general safety rule that a machine must have the master disconnect switch locked in the "off" position before a machine is to be worked on by maintenance people or jobsetters. This rule, although important from a safety standpoint, is difficult to enforce, particularly if the disconnect switch is inconveniently located, as on an elevated platform or at one end of an extremely long machine. It is advisable to have this disconnect on the floor level and normally as close to the mid-point of the machine as possible. A rule that is convenient to obey is far more readily enforced than one requiring extra effort.

Many machines are built without emergency safety stops—or the stops are not readily accessible. Emergency stops should be arranged to be available from

virtually every spot on the machine and from either side. A widely used application of this type of stop, particularly on long extended machines, is the safety cord. It might be added at this point that all of the machine's functions and its related equipment should be stopped when this safety stop is applied.

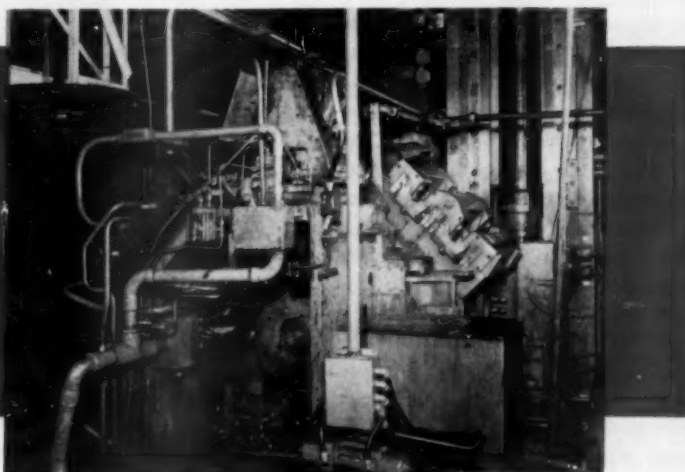
Recessed start buttons on equipment are vital as indicated by the number of accidents that occur when a person's body comes in contact with an exposed start button while the machine is being repaired or tools changed. This is especially true if the lockout rule is violated.

Since in many machines hydraulic power is used to activate the various functions of the machine before transfer hydraulic pressure can be applied, all panel switches must be on. This would cause one of the most potentially dangerous elements of the machine to remain inoperative until the rest of the machine is made ready to cycle. Some machines are arranged so that, if one section is shut down, the transfer through this section could operate because it gains its pressure from a hydraulic unit connected to a still-active adjacent section. Locking out one transfer section does not assure safety.

Through an economy effort, much equipment is made with single solenoid spring return control valves. These economies are soon lost through the potential accidents possible in their use. A positively placed valve spool in a two coil valve is far superior because of the possibility, on a single coil valve, of the spool creeping or becoming mislocated and causing subsequent jamming, erratic cycle. By all means, double coil valves should be used wherever possible.

In equipment operated pneumatically, the trapped air compressed against a sudden stoppage is as

Figure 5—American brooch: Changing center drills necessitates climbing machine, exposing operator to falling hazard.



dangerous as a coiled spring. Electrically, a solenoid controlled dump valve should be arranged to dump all air pressure to the machine when the stop or emergency stop button is used. This accomplishes the same thing as shutting off the hydraulic system in a hydraulically controlled machine; the source of the moving force is removed and, in the case of the air operation, the back pressure is dumped.

Automatic washers, ovens and blow-off section should be arranged to become inoperative when the covers or access doors are removed for inspection or repair. These safetys would cause all pumps, hot water and steam facilities to be shut off until the doors and similar units were replaced. At this time the machine could be recycled and placed in automatic cycle.

A necessary evil in automatic equipment is the finding of what is wrong when it does not cycle as it should—in other words, "trouble shooting." Many accidents occur on automation during this period, when a repairman must subject himself to certain hazardous situations.

Many times a machine must be left in the "as occurred" condition so a repairman can correct a fault after discovering the cause of the irregularity. Often, if a machine fails to cycle and is shut down, an electrician cannot determine what is wrong or what piece of equipment failed. Because the power must be left on, it presents certain hazards conductive to accidents. Placement of limit switches in areas easily reached without subjecting the repairman to serious hazard is advisable.

Remote controlled limit switches are advantageous for the preceding reason and because applications requiring a coolant normally move the switch out of the coolant area. Limit switches shorted by coolant also are potentially dangerous.

A machine of automatic nature should in general be wired to a failure-safe. That is, if a switch fails, the machine will not become a hazard. An example of this is the feed of a milling head, which should be designed so that, if a rapid traverse limit switch fails, the machine would be in fine feed. This eliminates the possibility of a machine going into the work in rapid advance.

#### CONCLUSIONS

The element of fluidity is inherent in the preliminary design and layout of the components in an automated production line. For instance, experience supporting this information has shown that

the engine cylinder block line design could be helped by lessons learned in previous automated block line building. There were existing lines where debugging had made considerable progress. But the engine camshaft was on virgin ground and the design had to be taken from the air.

In spite of this difference, both lines were alike in that they had to be custom tailored to the floor plan and the work piece and did not lend themselves to the stipulation of rigid safety specifications, other than those applicable to standard installations. It was not until the preliminary design had left the drafting board that it could be attacked from the safety angle.

A team composed of Pontiac process engineering, plant layout, plant engineering and production supervision personnel and the equipment builder's engineers began the real work of constructive criticism and suggestion. An important part of that work was the detection and removal of potential hazards. This scrutiny continued through the building and initial tryout on the builder's floor and through the activating on the factory floor. The Safety Department was called in to inspect before and after. Of necessity, this scrutiny has never ceased. There were no rules; there were only problems on safety which had to be solved—and solved before they turned into traps.

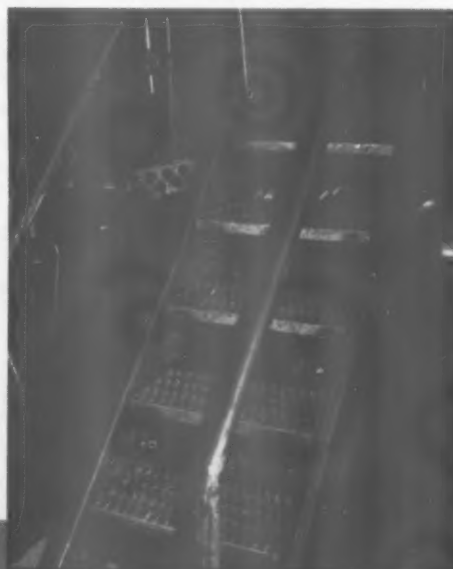


Figure 6—Use of skid-resistant expanded metal in step fabrication reduces slipping hazard on rifle.



# SELLING A SAFETY PROGRAM TO TOP MANAGEMENT

by JOSEPH A. MENENDEZ

■ THE TITLE OF THIS ARTICLE implies, advisedly, that top management is a prospective buyer and we safety engineers are the hopeful salesmen. We have a safety program to offer top management. It is my purpose here to consider approaches which may be used to assure this "sale."

Top management, as any prospective buyer, must have a need for a product in order to be receptive. So it is imperative that, as salesmen, we show our "buyers" their need.

## SAFETY MEANS EFFICIENCY

To sell a safety program to top management, my first suggestion is to demonstrate that accidents are inefficiencies and that an effective safety program is an efficiency measure. Top management, since it has a responsibility to its stockholders to maintain an efficient operation, is interested in measures that produce efficiency. It's good business.

We must keep top management informed with facts. Tangible information—ammunition—can be found in the intelligent use of statistics, for statistics reveal that accidents are inefficiencies. Top management people, having many reports to review and digest, welcome statistics that are concise and can be readily studied and understood. And to be most palatable and easily digested, these statistics should reveal trends.

Since frequency and severity rates are well established evaluations which can aid in conditioning top management for the "sale," I suggest they be used in a way that will indicate a trend: include year-to-date frequency and severity rates in your monthly reports.

**Monthly Rate Reports**—At the Falstaff Brewing Corporation we use a frequency and severity rate form (Figure 1) which is not uncommon. It keeps

top management informed by individual Production and Maintenance Departments and by totals for these departments.

This distinct separation has been made to pinpoint responsibility so that top management can see readily exactly where a weakness may be and who is responsible. The drivers, miscellaneous and semimonthly figures are listed separately for the same reason. While the separations entail more effort on our part, they give top management a report that is easy to understand. It is not a report that just says, "We are doing well (. . . or poorly)," but one that pinpoints the strong and weak areas.

This monthly report also gives top management the year-to-date rates. One month's rates alone are not conclusive and management wants to know how we are faring to date.

**Box Score Notice**—We use another form which is primarily a bulletin board notice (Figure 2), but also is sent to top brass. It gives a simple year-to-date plant comparison of frequency and severity rates in the upper box score, as well as the number of days since the last disabling injury. A footnote explains that the figures include only the experience of the plant Production and Maintenance Departments and that these figures indicate frequency rate standings and not interplant safety contest standings. A lower box score reveals the current and previous year's lost time injuries for plant depart-



Joseph A. Menendez, safety director of Falstaff Brewing Corporation since 1954, joined that company after serving in the same capacity for 12 years with American Zinc. A Society member since 1948, Mr. Menendez is a past treasurer and past general chairman of the St. Louis Chapter. Also, he was one of the organizers, East St. Louis Safety Council.

ments by month and year to date, and the frequency and severity rates for the year to date.

It is a simple report which gives facts at a glance and indicates a trend. Lengthy reports showing comparisons of five, ten or more years are too comprehensive and should be used only for a specific purpose or periodically.

**Direct Expense Reports**—Another selling point, effective with top management, is the direct injury expense report. This report is truly tangible. It points out efficiencies and deficiencies in a language in which top management is very fluent—cost figures. Direct injury cost figures cannot be juggled. They are facts that are cut and dried.

One of our three direct injury expense reports (Figure 3) is an annual report of injury costs by plant, per barrel per employee, for the four plant Production and Maintenance Departments. It also shows the previous year's comparative costs. These cost figures include the medical, hospitalization and workmen's compensation paid on all closed or completed injury cases and the reserve figure on open or pending cases.

Another report (Figure 4) reveals these same costs by departments, which pinpoints for top management any efficiencies and deficiencies. Again, this report gives a guide or trend to follow with the previous year's comparison.

A third report (Figure 5) picks up the drivers, the semimonthly and the miscellaneous group to complete the picture.

These figures are obtainable from the insurance carrier or, if self-insured, from the Insurance Department or Accounting Department. These should be presented so that top management can study them by department, by plant or, in general, by total costs.

(Incidentally, I know of no company that includes these costs as production costs, which actually is what they are. If a bottler is injured in one of our plants, it has cost Falstaff that much more to bottle the product on that particular shift.)

**Quarterly Injury Costs**—The Safety Department sends our plant superintendents quarterly cost reports by department and individual injury cases to keep them posted currently. Several of our plant superintendents requested this report after we started our interplant safety contest, which includes injury expense as an important category. Quarterly reports, they felt, kept them posted and they could direct their efforts accordingly.

**FALSTAFF PLANT No.** \_\_\_\_\_

Frequency and Severity Rates  
MONTHLY OF \_\_\_\_\_

195\_\_\_\_\_

DEPARTMENT	No. Days	MAIN INCOME		UNIT-TIME RATES						TIME CHARGES		FREQUENCY AND SEVERITY RATES			
		Month	Year to Date	Total Hrs.	Per Day	Temp. Unit	Total Hours	Month	Year	Month	Year	Freq.	Sev.	Year to Date Freq.	Sev.
Brewing															
Bottling															
Engineering															
Construction															
TOTAL PLANT															
Drivers															
*Miscellaneous															
Semi-Monthly															
CONSOLIDATED															
**ADJUSTED															

REMARKS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\* Guards, Advertising, Timekeepers, Etc.  
\*\* To be used only at end of the year

KRMW-0-228 TRO Rev. 7-55

Figure 1—Monthly Frequency and Severity Rate Report

Statistics are facts that must be used to sell a safety program to top management. If they reveal efficiency, the selling point is that the safety program is needed to maintain that efficiency. If deficiencies are revealed, the need of a stimulated safety program to eliminate them is indicated.

The foregoing emphasis on cost figures perhaps needs some qualification to put this section in proper perspective, especially for the misinformed who picture top management as interested only in the dollar sign. Actually, top management is made up of people who are, in my experience, very sympathetic and kind. Many, in the past, have been closely associated with employees, many have visited injured and ill employees in the hospital and in the home.

These people at the top are just as humane today as they were previously: they do not want to see their employees suffering and losing wages. As corporations become larger, however, top management often has found it necessary to delegate this personal attention to department heads, supervisors, personnel managers and safety personnel, just as it has had to delegate responsibility for maintaining machines and equipment in which top management still is interested but to which it no longer can attend personally.

**"GHOST WRITE" PROMOTIONAL MATERIAL**

My second suggestion for selling top management a safety program is for the safety director or engineer to be a ghost writer.

Top management does not have time to prepare letters, directives or memorandums to key personnel on safety. Neither does it have time to prepare them for the Sales or Advertising Departments or the many other departments.

The safety director has been delegated the responsibility by top management for selling safety to all personnel. And one of the best mediums is an occasional letter to key personnel from top management—from the big boss.

For instance, a letter from the president to all drivers of company vehicles may be in order during a national or local traffic campaign. And no one is better qualified than the safety director to prepare a suggested letter on this theme for the president.

If letters such as this are prepared intelligently and concisely, top management will appreciate the opportunity to do its part. A word of warning: don't overdo it. Management may tire of it or it may lose its effectiveness if it becomes too commonplace.

Another writing job for the safety director: the frequency and severity rates may merit a compliment or a reprimand from the corporate production manager. The safety director who has made a careful study of existing conditions can include pertinent points for emphasis which will be most effective in a letter or memo for the production manager to send to department heads and supervisors.

Our annual injury expense report is sent to key management personnel by our executive vice presi-

dent and general manager. He sends a letter of transmittal with these reports which includes suggested remarks prepared by the safety director.

This letter (Figure 6) reads, in part, "... This tells me that not only dollars and cents have been saved but also that less suffering has been experienced by our Falstaff family and less time has been spent in the doctor's office, in the hospital and away from work. ... It spells efficiency—better operation of your respective departments. ... Congratulations, etc. ..."

This message, coming from top management, is much more effective than it would be coming from the safety director. The safety director can prepare such a suggested letter and present it to the top brass for approval, thus relieving them of valuable time preparing such material—and you are selling your safety program to them simultaneously.

For those who are reluctant to offer top management suggested letters or remarks, for fear they may be disregarded, I have found it true that the bigger the man, the more receptive and appreciative he will be. My immediate superior, our personnel director, has encouraged me to prepare letters for him on safety policies or subjects, directed to his personnel managers and the higher echelon.

Carefully worded, concise letters or memorandums, prepared for top management, not only help to sell the safety program to them but also put teeth into your overall program. It keeps management interested and all other levels on their toes.

#### URGE ACTIVE PARTICIPATION

My third suggestion is to make top management people active participants in the safety program. This can be achieved without consuming too much of their valuable time and effort.

Do not let them become figureheads. Mr. Webster defines the word "figurehead" as "a nominal, but not real, head; one who allows his name to be used to give standing to enterprises in which he has no responsible interest or duties."

Top management people must not be considered figureheads in the safety program. They have interests and duties that are very real. We cannot afford figureheads in our organization and neither can you.

General or Steering Safety Committees in our operation are headed by the plant superintendent at each plant. He conducts the meetings and inspections. The department head has the same responsibility where such committees exist within the department.

Figure 2—Box Score on Lost Time Injuries

LOST - TIME INJURY SUMMARY					
TO DATE - OCTOBER - 1958					
(Inclusive)					
POSITION	LOCATION	DAYS TO DATE 1958	INJURIES PER MILLION HOURS	DAYS LOST PER MILLION HOURS	DAYS SINCE LAST INJURY
1	Plant (5)				
2	Plant (2)				
3	Plant (1)				
4	Plant (4)				
5	Plant (3)				
6					
7					
8					
TOTAL					

These figures include experience of the Drawing, Drafting, Engineering and Construction Departments. They are used as factors in Inter-Plant Safety Contest but do not indicate standings in the contest, merely indicate standings in accident frequency rates.

BOX SCORE	1958	1957
Number of Lost-Time Injuries - October		
Number of Lost-Time Injuries - To Date		
Lost-Time Injuries Per-Million Man-Hours		
Days Lost Per-Million Man-Hours		

These persons are top management in their respective areas. They have the responsibility of the health and safety of the personnel, equipment and machines in these areas.

Many of you have seen at various management levels the individual who could not be sold on safety and who has been converted, completely and sincerely, into one of the best safety salesmen in the organization when this responsibility was placed solely on his shoulders. They become sold on the safety program as they become active participants.

If you conduct contests, stay in the background—be the script writer and channel materials, etc., through top management. Make top management an active participant not only at award ceremonies but during the contest. You not only sell the safety program to top management but to supervisors and employees as well by having top management's sincerity felt by all concerned.

At Falstaff we have devised a comprehensive interplant safety contest which has made our top management very active participants in our accident prevention program.

The contest is conducted by our corporate production manager. He announced the program, originally, and he sends out all pertinent information and correspondence. He has appointed a Judging Committee, which he heads and which includes the

TOTAL INJURY COSTS BY PLANT - PER BARREL - PER EMPLOYEE  
PRODUCTION AND MAINTENANCE  
YEAR - 1957

	PLANT #1	PLANT #2	PLANT #3	PLANT #4	PLANT #5	TOTALS
<u>COSTS</u>						
Year - 1957						
Year - 1956						
<u>BARRELS PRODUCED</u>						
Year - 1957						
Year - 1956						
<u>AVERAGE NO. OF EMPLOYEES</u>						
Year - 1957						
Year - 1956						

TOTAL INJURY COSTS BY DEPARTMENT  
(Production and Maintenance)  
YEAR - 1957

	PLANT #1	PLANT #2	PLANT #3	PLANT #4	PLANT #5	TOTALS
<u>DEPARTMENT</u>						
<u>MILLING</u>						
Year - 1957						
Year - 1956						
<u>SMELTING</u>						
Year - 1957						
Year - 1956						
<u>CONSTRUCTION</u>						
Year - 1957						
Year - 1956						
<u>ENGINEERING</u>						
Year - 1957						
Year - 1956						
<u>TOTAL PLANTS</u>						
Year - 1957						
Year - 1956						

Figure 3—Annual Report of Injury Costs by Plant  
(per barrel per employee)

Figure 4—Annual Report of Injury Costs by Department  
(production and maintenance, all plants)

Figure 5—Injury Costs for Salaried Employees and Drivers  
(and average personal injury costs)

TOTAL COSTS

EXCLUDED EMPLOYEES AND DRIVERS

YEAR - 1957

	PLANT #1	PLANT #2	PLANT #3	PLANT #4	PLANT #5	TOTALS
<u>DEPARTMENT</u>						
<u>DRIVERS (1957)</u>						
Year - 1957						
Year - 1956						
<u>MISCELLANEOUS (1957)</u>						
Year - 1957						
Year - 1956						
<u>ONE-MONTHLY (1957)</u>						
Year - 1957						
Year - 1956						
<u>TOTALS:</u>						
Year - 1957						
Year - 1956						

PERSONAL INJURY COSTS  
(Per Driver by Plant Location)

YEAR - 1957  
Average No. of Employees  
Cost Per Employee  
YEAR - 1956  
Average No. of Employees  
Cost Per Employee



company's secretary and assistant treasurer (who heads our Insurance Department), the personnel director, the superintendent of engineering, the superintendent of construction, our workmen's compensation insurance broker and the safety director.

It is the duty of these men, at two committee meetings each year, to report to the production manager on the status, as per contest schedule, of each plant. The committee does not make plant safety inspections in a body but, as the members' work takes them to the various plants, they observe and make note of physical conditions of the plants and the attitudes, not only for judging purposes but also for recommendations to improve existing conditions.

This contest serves top management as a guide and control, as the subjects included will reveal readily. As you can see from the rating form (Figure 7), the "big three"—frequency, severity and costs—are the main "point getters" in the contest. The winner in each of these categories earns 100 points. All other categories can earn from 40 to 80 points. An index accompanied the point schedule form when the program was introduced. It explained the point system and what was expected in each category.

The contest has made safety tangible because it measures both by statistics and by effort exerted. It has given top management a tool with which to work on the prevention of accidents.

Points recently were raised by the committee, after the judging of last year's contest, when its members realized the importance of prompt and complete accident investigation reports and considered housekeeping from an efficiency and sanitation standpoint as well as for its accident prevention value.

The contest is flexible. For instance, one of our plants has one of the best fire brigades in the country, for its size. It is trained by the local Fire Department and its members are auxiliary firemen to the city Fire Department and Civil Defense Organization. Several times each year, the local Fire Department sends a fully equipped fire truck, with a driver and captain, to train our plant Fire Brigade. Of course, this Fire Brigade receives full point value.

However, full points on this item also may be received in a plant located in a large city where the plant has a well organized, trained crew which is discouraged by its city Fire Department from having fire hoses in the plant. Set standards on this and many of the other contest items is very difficult. Existing conditions dictate to the committee its decisions. Also, points will be changed by the committee to improve weak areas.

The safety training category merits points from supervisory training courses which include a safety session and are conducted at plant level by the personnel manager, who is responsible for the implementation of the safety program at each plant. Also points are given for a three hour safety course offered by our insurance carrier at each plant and such courses as are offered by the National Safety Council or local safety councils.

Out-of-plant meetings merit points for attendance by supervisors, personnel managers or depart-

FALSTAFF SHEDDING CORPORATION  
OFFICE MEMORANDUM

DATE March 10, 1958

TO Interested Parties

FROM Harvey Muffs, Jr.

The annual direct injury expense report for the year 1957, which is attached, reveals in most areas the results of very good work in your "battle" against accidents.

An overall 40% reduction in accident costs is most praiseworthy and encouraging. This tells me that not only dollars have been saved but also that less suffering has been experienced by our Falstaff family and less time has been spent in the doctor's office, in the hospital and away from work.

It spells efficiency - better operation of your respective departments. This improvement has been consistent - all functions have contributed by lowering their accident costs.

This reduction in accident costs did not just happen, it was caused - caused by your added efforts and an intelligent approach to the problem.

However, we still have areas which did not contribute to this decrease in accident costs. Improvements will be expected in 1958 in these areas.

The good work which has been done must be continued. We cannot rest on our laurels.

Congratulations and continued success in your accident prevention work.

Figure 6—Cover Letter for Annual Report of Injury Costs

ment heads at local safety council meetings, safety conferences or conventions, meetings of chapters of the American Society of Safety Engineers, etc. This encourages such management personnel to broaden their scope on accident prevention work. Other activities encourage each plant to develop its safety program by initiating slogans, gimmicks, contests, etc., and to participate in community safety campaigns such as traffic and bicycle safety.

Publicity on any plant safety activity is taken into consideration because it indicates added effort and is conducive to improving attitudes of employees as well as the public.

This contest is an effective aid in selling top management our safety program. It has made management an active and interested participant.

#### USE PUBLICITY AS SALES AID

The fourth suggestion I would make to sell a safety program to top management is that the safety director should "blow his horn" for safety—should make his wares known by the use of publicity.

It has been stated that "publicity is the voice of safety." We can use this voice to help sell our product. Publicity—that is, "good" publicity—helps in the public relations efforts which are a constant activity of management.

Safety, a noncontroversial subject with much human appeal, can be and should be publicized. Public relations and publicity for safety is a subject in itself and I will take only a few sentences to touch on it. For those who may be interested in more information, the 1955 edition of the NSC *Accident Prevention Manual for Industrial Operations* has a very interesting article on this subject.

If you have a Public Relations Department, you should consider it part of your job to work closely with it. Remember, however, that this department is interested in newsworthy material; don't burden them with routine activities.

The Public Relations Department often can use articles and photographs for the company or plant house organ. It can pass on to trade magazines, newspapers and radio and television stations whatever news material you submit which may be appropriate for such media.

If you have no Public Relations Department, make some contacts yourself with the above mentioned media. But use discretion and send only what may appeal to the reader or listener.

Publicity is news resulting from activity. Top management knows this and recognizes the efforts exerted and results achieved.

#### SELL SELF TO MANAGEMENT

My fifth and final suggestion to sell the safety program to top management is to sell yourself.

I do not think much elaboration is necessary but I will mention several suggestions that are, in my opinion, essential in selling yourself.

A safety engineer must be sincere and deeply interested in his work. As a good salesman, he must first be sold on his product himself.

His enthusiasm must be such that it is catching,

so it will permeate throughout the organization, including top management. This enthusiasm must reveal an intense, profound and eager interest with a liveliness of imagination and an ardent zeal for this "safety" product he believes to be so worthy.

He must be able to accept "no" for an answer and yet not be a "yes" man. He must put up a fight for what he thinks is right, yet accept an occasional defeat gracefully.

He must respect and be respected.

In a nutshell—by doing his job well, he is selling top management on both himself and his safety program.

#### SUMMARY OF SUGGESTIONS

In summary, here briefly are the five suggestions I have made for selling a safety program to top management:

1. Give top management facts, statistics presented intelligently, to reveal that accidents are inefficiencies and that your safety program is an efficiency measure.
2. Help top management people help you by being a ghost writer. Prepare suggested letters or memorandums which they may send to key personnel.
3. Make top management an active participant in the safety program. Don't let it be a figurehead.
4. Blow your horn for safety by publicizing safety activities.
5. Be sincere and enthusiastic and do your job well so that you will sell yourself and your program to top management.

Figure 7—Interplant Safety Contest Rating Form

PLANT NUMBER	FREQUENCY (100)	SEVERITY (100)	CAUSE NO. (100)	PLANT INSPECTION (50)	COMMITTEE MEETING (50)	EDUCATIONAL INSPECTION (50)	SEAFARER MEETING (50)	ACTS, INQUIRY REPORT (50)	NEWS INQUIRY REPORT (50)	WORKSHEETING (50)	FIRST-AID FACILITIES (50)	PIPE WELDER (50)	ROCKERS (PLANT) (50)	ROCKERS (PORT) (50)	FIRST-AID TRAINING (50)	BOILERMAN PROGRAM (50)	SAFETY PRACTICE (50)	OUT-OF-PLANT MEETING (50)	OTHER ACTIVITIES (50)
#1																			
#2																			
#3																			
#4																			
#5																			
#6																			
#7																			
#8																			
#9																			

Index numbers at top of page correspond with Schedule Index.  
 Figures in parentheses ( ) indicate maximum points per heading.  
 Maximum aggregate point total = 1,100.

## AMERICAN SOCIETY OF SAFETY ENGINEERS

**I** am a Safety Engineer. In my profession I take deep pride, but without vainglory; to it I owe solemn obligations that I am eager to fulfill.

**A**s a Safety Engineer, I will participate in none but honest enterprise. To him that has engaged my services as employer or client, I will give the utmost of performance and fidelity.

**W**hen needed, my skill and knowledge shall be given without reservation for the public good. From special capacity springs the obligation to use it well in the service of humanity, and I accept the challenge that this implies.

**J**ealous of the high repute of my calling, I will strive to protect the interests and the good name of any Safety Engineer that I know to be deserving; but I will not shrink, should duty dictate, from disclosing the truth regarding anyone that, by

unscrupulous act, has shown himself unworthy of the profession.

**S**ince the Age of Stone, human progress has been conditioned by the genius of my professional forbears. By them have been rendered usable to mankind Nature's vast resources of material and energy. By them have been vitalized and turned to practical account the principles of science and the revelations of technology. Except for this heritage of accumulated experience, my efforts would be feeble.

**I** dedicate myself to the instruction of younger members of my profession in all its arts and traditions. To my Fellows, I pledge, in the same full measure I ask of them, integrity and fair dealing, tolerance and respect, and devotion to the standards and the dignity of our profession; with the consciousness, always, that our special expertness carries with it the obligation to serve humanity with complete sincerity.



## AMERICAN SOCIETY OF SAFETY ENGINEERS

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### *Membership Information*

**T**HE American Society of Safety Engineers has established the following classifications of active membership.

**MEMBER** — To be eligible as a Member an applicant shall be at least thirty years of age and shall be engaged in safety engineering. In addition, he shall have either an engineering or science degree in an accredited college curriculum and the equivalent of eight full years' experience in safety engineering; or he shall have had the equivalent of ten full years' experience in safety engineering.

**ASSOCIATE MEMBER** — To be eligible as an Associate Member an applicant shall be at least twenty-five years of age and shall be engaged in safety engineering. In addition, he shall have either an engineering or science degree in an accredited college curriculum and the equivalent of three full years' experience in safety engineering; or he shall have the equivalent of five full years' experience in safety engineering; or he shall have either an engineering or science degree in an accredited college curriculum, ten years' experience in professional engineering work and one full year's experience in safety engineering; or he shall have twenty years' experience in engineering work, of which at least ten have been at the professional level, and one full year's experience in safety engineering.

**JUNIOR MEMBER** — To be eligible as a Junior Member an applicant shall be at least twenty years of age and shall be engaged in safety engineering work, which if pursued the required time will tend to qualify the applicant for the classification of Associate Member. In addition, he shall have either an engineering or science degree in an accredited college curriculum or he shall have had the equivalent of one full year's experience in safety engineering.

**AFFILIATE MEMBER** — The Society also provides a special classification, that of Affiliate Member, for those not professionally engaged in safety engineering. To be eligible as an Affiliate Member an applicant shall be at least twenty-five years of age and shall have contributed to the advancement of safety engineering through demonstrated achievement in some related field of interest in which he has been engaged for at least three years.

*for additional information write to*

The American Society of Safety Engineers  
5 North Wabash Avenue, Suite 1705  
Chicago 2, Illinois  
(or contact your local chapter)





*Dunbar's fine woods come from all corners of the world.  
Their insurance comes from Wausau, Wisconsin.*

THE CHAIR THAT KEPT A TRADITION ALIVE . . .

# Wausau Story

AT BERNE, INDIANA



**GROVER W. SPRUNGER,**  
*President,  
The Dunbar Furniture  
Corporation*

"It's 40 years since Aloysius Dunbar took time out from his work as a buggy maker to build a leather-covered rocking chair for his wife.

"Today, building Dunbar Furniture is a full-time job for some 300 of us here at Berne. And every piece is done with the same care and devotion that made people want a chair like the one in Mrs. Dunbar's parlor.

"Our people inherited a natural feeling for craftsmanship from our Swiss forebears. We've kept the tradition alive and thriving in our community. Or, I should say our community has kept that spirit alive for us. It's like the 'Wausau

Way of Working,' the natural feeling for being helpful and interested that Employers Mutuals' people draw from their community. As an Employers Mutuals' policyholder—especially in workmen's compensation—we have a high regard for that unique way of working. It's helped us maintain award-winning safety records and save money on our insurance costs.

"Our Safety Committee is an example. Employers Mutuals helped us set it up so almost every man in our plant has served at least once. Safety education couldn't be more effective. Then too, Employers Mutuals' Safety Engineers visit us regularly. Specialists come when specialized help is needed. All this proves, in their own field, Employers Mutuals' people are skilled and devoted craftsmen too . . . 'good people to do business with'."

From start to finish, lumber room to shipping dock, Employers Mutuals' men work closely with Dunbar management to prevent accidents, cut insurance costs. Harold Sprunger, Dunbar Vice President (left), confers with Employers Mutuals' Herb Storck . . . using the plant's lumber room as an unexpected setting the way Dunbar does in advertising their furniture.



**Hand carving** blends the joints of machine-milled chair parts. Handwork like this requires special safety education, cannot rely on the usual standardized rules or mechanical guards.



**Trim tailoring** of upholstered pieces is another job that requires skilled handwork. All procedures, manual or mechanical, are periodically reviewed by Dunbar's Safety Committee and an Employers Mutuals Safety Engineer.

. . . . .

In the Chippewa Indian tongue Wausau, (Wah'-saw) meant "far-away-place." But today Wausau is as close as your telephone. There are Employers Mutuals of Wausau offices in 109 cities throughout the United States and personal service is never more than a few hours away. We write all forms of fire, group and casualty insurance (including automobile) and are one of the largest writers of workmen's compensation. Consult your telephone directory for your nearest Wausau Man or write us in Wausau, Wisconsin.

## Employers Mutuals of Wausau



*"Good people to do  
business with"*

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All body links on every size of TM Alloy Chain are electrically flash-welded to form Taylor's exclusive, stress-free links. This method, plus controlled heat-treatment, removes all stress — insures maximum strength and safety. Tayco Hooks ... Taylor's quality control and Test Certificate are other advantages. Get all the facts. Call your distributor or write for Bulletin 13.

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## Personals

—From page 54

and the Art Institute of Chicago.

Miss Zearing is a member of the Illinois Chapter of the Special Libraries Association and a charter member of the Oak Park Chapter of the National Federation of Business and Professional Women's Clubs which she helped to organize.

## Motor Transport Manager

ALFRED C. FINCH, new manager of the National Safety Council's Motor Transport Department, has been with the Council since 1947. He succeeds Paul H. Coburn.

Finch, who attended Northwestern University, obtained his initial experience in accident prevention with United Air Lines' safety division.

He has been staff representative of the Council's Commercial Vehicle Section since 1948, and secretary of the National Fleet Safety Contest since 1949.

He has been responsible for the Council's poster and dash card services for truck, bus, taxicab, and passenger car fleets, and designed the system of accident reports and records for motor transport fleets.

Finch has lectured at courses sponsored by the National Advisory Committee on Fleet Supervisor Training.

## Formica Promotes Mills

WILLIAM E. MILLS has been named director of safety and loss prevention at Formica Corporation, Cincinnati, Ohio. He succeeds the late John Shear.

Mr. Mills joined Formica Corp., a subsidiary of American Cyanamid, six years ago and was appointed assistant safety director a year later. A native of Cincinnati, he attended Mt. Healthy high school and was graduated from the Ohio College of Applied Science. He is a member of the American Society of Safety Engineers, Cincinnati chapter.

## Safety Council Officers Named

WALTER LINDEMANN of the Hough Manufacturing Corp., Janes-

ville, Wis., has been elected president of the Wisconsin Council of Safety. He succeeds Leslie Mangin of the Manitowoc Shipbuilding Co.

Other officers named at the Council's annual business meeting at Green Bay are:

Murdoch Pryor, Allen Bradley Co., Milwaukee, vice-president for occupational safety; M. C. Olsen, Hardware Mutuals, Stevens Point, vice-president for traffic safety; James Reilly, Cutler-Hammer Co., Milwaukee, vice-president for general safety; Henry Jobelius, Appleton Wire Works, treasurer.

Clyde Zamjahn, Waukesha Foundry Co., was re-elected secretary.

## Thomas Re-elected Head of NFPA

HENRY G. THOMAS, recently retired chief of the Hartford, Conn., Fire Department, has been re-elected president of the National Fire Protection Association, non-profit technical and educational organization which provides the country's fire safety standards.

Other officers re-elected at today's session include Loren S. Bush, chief engineer of the Board of Fire Underwriters of the Pacific, as first vice-president; J. Sharp Queener, manager of the Safety and Fire Protection Division, E. I. duPont de Nemours Co., as second vice-president; and Hovey T. Freeman, president of the Manufacturers Mutual Fire Insurance Co., as secretary-treasurer.

Re-elected as chairman of the National Fire Protection Association's Board of Directors is T. Seddon Duke of Philadelphia, president of the Star Sprinkler Corporation of that city.

Newly named to the board of directors for 3-year terms are:

A. Sidney Briggs, manager, Fire Prevention and Engineering Bureau of Texas.

Frank J. Fee, Jr., president, Reliable Automatic Sprinkler Co.

Elmer O. Mattocks, director, Department of Technical Services, American Petroleum Institute.

Carroll E. Shaw, deputy state fire marshal, Hartford, Conn.

E. C. Wood, president, Imperial Tobacco Co. of Canada, Ltd.

**"No man  
can improve  
an original invention..."**

*—William Blake*

**T**HERE are many scientists today who would argue this point with Blake.

At Bell Telephone Laboratories, for example, we have seen original inventions improved and re-improved countless times, the better to serve mankind.

But William Blake went on to say "...nor can an original invention exist without execution organized, delineated and articulated." Here Blake expressed ideas that apply with striking emphasis today. At Bell Laboratories organized effort is constantly aimed at fostering an environment in which inventions can exist and prosper, where they can be expressed either as ideas or in physical form, and where clear understanding of their principles can be achieved.

Indeed, Bell Laboratories scientists have made contributions to the art of communications which have twice earned Nobel prizes, and which have helped create the most efficient and versatile telephone system ever known. Bell Laboratories research and engineering serve the country, too... in such projects as—among others—guidance systems for the Nike and Titan missiles, the DEW line, SAGE, the Alaska Military Network.



**William Blake** (1757-1827), a versatile genius, was famous for brilliant, sometimes prophetic, insights which he expressed with provocative beauty in drawing, painting, poetry and prose.

**BELL TELEPHONE SYSTEM**







**Where's the Man in this picture?  
HE'S AT SAFE DISTANCE  
RELEASING THIS LOAD BY  
PUSH BUTTON CONTROL!**

• Think of it! Now you can release "tough-to-handle" loads safely and without help from a follow-up man with the new Acco Solenoid Chain Release. Truly a revolutionary development in material handling, the Acco Solenoid Chain Release is controlled by the crane operator from his cab. Simply by pushing a button, he activates solenoids on the end of a spreader bar which in turn expels the chain from the hooks and releases the load. What if the control button is pressed accidentally or the power fails while the load is in the air? Nothing will happen because load must be on the floor with tension removed from the chain before solenoids operate.

The Acco Solenoid Chain Release is the safe answer to many material handling jobs where conditions make it dangerous for a man to unhook the load. Placing bundles of steel billets in a cooling pit is but one job made far safer by this labor-saving equipment.

The Acco Solenoid Chain Release can be ordered now in single or double spreader bar models. Accoloy X-Weld 125 Chain is normally furnished with both models although other types of chain are available upon special request. Spreader bar is sturdy I-Beam steel. Individual solenoid units without the spreader bar are also available. For complete information write our York, Pa., office.

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## OBITUARY

### WALTER T. JOHNSON

WALTER T. JOHNSON, a former general chairman of the National Safety Council's Air Transport Section and a pioneer in aviation ground safety, died July 11.

He was American Airlines' full-time ground safety man and later joined the Airlines National Terminal Services Corporation. For many years he had been with the United States Fidelity and Guarantee Corporation in the general insurance field.

In the early days of the Flight Safety Foundation he worked with Jerry Lederer. As chairman of the Air Transport Section's Engineering Committee he was responsible for the development of data sheets on grounding of aircraft and on automotive equipment operation at airports. He served on the NFPA's Aviation Committee and other industry safety groups.

### Industrial Staff

—From page 50

eral aggregates, glass and ceramics), Ed Croushore (rubber, textile), and Jane Weir (occupational health nursing). A new representative for the Fertilizer and Meat Packing Sections is being appointed.

**Editorial.** The Industrial Department's Editorial Division edits technical publications in the field of occupational safety such as the *Accident Prevention Manual*, *Five-Minute Safety Talks*, data sheets, and the monthly sectional newsletters. Robert Sullivan is director of the division. Other members are Helen Willems, who also handles hospital safety, Alan Levey, and Alex Williams.

**The Small Business Division** under the direction of A. M. Baltzer concentrates its attention on promoting safer operations in small business. Much of this work is accomplished through cooperation with trade associations. John Curry assists Baltzer.



## Announce Changes in Council's Award Plan

Minor changes in the National Safety Council's Award Plan for Recognizing Good Industrial Safety Records were officially adopted by the Industrial Conference of the National Safety Council through its Contest and Awards Committee, October 1958 and January 1959. The first two changes make it easier to qualify for certain awards; the third places restrictions on the groupings of two or more years as current experience.

### Certificate of Commendation

Change in interpretation only, paragraph 17, page 6:

Past interpretation required perfect calendar years totalling 200,000 hours (exclusive of fractional years).

New interpretation requires a perfect calendar year and 200,000 hours since the last injury.

### Awards for Continuing Improvement

Addition to follow paragraph 27, page 6:

A unit earning an award for a calendar year will continue to receive at least the same level of award for following years, so long as its record is as good or better than in the year of original award, regardless of table requirements.

### Combining Two or More Years For Current Experience

Paragraph 1, page 15, has been changed to read:

Since the amount of exposure determines in an important way whether or not current trends are reliable and statistically significant, the requirements which must be met are less for larger exposures. Consequently, smaller organizations have the option of expanding the current period to include additional consecutive calendar years and thus qualify for recognition of trends which might not be significant for a smaller exposure.

The current experience submitted for evaluation ordinarily will consist of one calendar year—January 1 through December 31. However, a unit operating less than 1,000,000 man-hours in the current year may use two or more consecutive calen-

National Safety News, August, 1959



## ... BUT ONLY 100° F INSIDE HIS "SCOTCH-SHIELD" FABRIC SUIT!

**Make repairs in minutes...  
no need to "cool" furnace or kiln!**

Thousands of dollars in production time are lost when furnaces or kilns must be cooled for a few minutes of emergency maintenance or repair... then slowly reheated *hours* later!

In many instances, a workman wearing garments made of "Scotch-shield" Aluminized Fabric can do maintenance or repair work in a few minutes while the kiln or furnace is close to working temperature! Protective clothing made of "Scotch-shield" Fabric reflects *more than 90%* of radiant heat... a full suit made of it will keep a workman near normal body temperature even when facing a temperature of 2440° F!

Garments made of "Scotch-shield" Aluminized Fabric are *lightweight* and flexible, let workmen move easily and comfortably, get dangerous maintenance work done *quickly*! Tough "Scotch-shield" Aluminized Fabric protects from splatter too... lasts much longer than conventional clothing. Why not send the coupon below for complete details?



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ALUMINIZED FABRIC

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... WHERE RESEARCH IS THE KEY TO TOMORROW ...  
Minnesota Mining and Manufacturing Company, Dept. RBY-89, St. Paul 6, Minnesota  
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## BERYLCO TOOLS may save you one -

Today's plant engineer always puts safety near the top of any list. He knows that modern tools . . . made of low-cost beryllium copper . . . mean far more than the words "spark-resistant." They not only cut chance of costly fire and explosion, but these up-to-date tools are non-magnetic and can never corrode. Workers like their strength and handling ease.

Safety Tool Division, THE BERYLLIUM CORP., P.O. Box 1462, Reading, Pa.

Send me free copy of your new safety tool catalog. Include name of my distributor.

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**THE BERYLLIUM CORPORATION**

Reading, Pennsylvania

Circle Item No. 43—Reader Service Card

dar years for current experience. The years combined, though, excluding the oldest year, may not exceed 1,000,000 man-hours. That is, to any number of the most recent years whose experience totals less than 1,000,000 man-hours, may be added one more year. (For example: a current year with 700,000 man-hours may be combined with the immediately preceding year, to total 1,000,000 or more, or three years of 300,000 each may be combined with the immediately preceding year to total 1,000,000 or more, etc.).

Inquiries regarding these changes or requests for copies of the Award Plan should be addressed to Statistics Division, National Safety Council.

### NBS to Publish Four-Part Journal

On July 1, 1959, the National Bureau of Standards started publishing its *Journal of Research* in four separate sections, which may be subscribed for individually. This change will permit more effective dissemination of the Bureau's findings.

The editorial scope of the *Journal* is being broadened to cover the Bureau's technical program as completely as possible. Other publications changes include the start of two new nonperiodical publication series.

The *Journal of Research* is the basic medium by which the Bureau reports its findings to the scientific community. It contains comprehensive research papers which give complete details of the work, including laboratory data, experimental procedures, and theoretical and mathematical analyses.

As now published, the *Journal* covers most fields of the physical sciences and various branches of engineering. Its division into separate sections is an effort to meet more effectively the specialized needs of today's scientists, engineers, and mathematicians.

The *Journal* is being divided into the following sections, each available on subscription from the Government Printing Office:

National Safety News, August, 1959

Section A: Physics and Chemistry  
Section B: Mathematics and  
Mathematical Physics  
Section C: Engineering and In-  
strumentation  
Section D: Radio Propagation

In addition to research reports, the new *Journal* will present review articles by recognized authorities and compilations of information on subjects related to the Bureau's basic mission.

To provide complete coverage of the Bureau's technical program, all NBS nonperiodical publications and articles by the Bureau staff in professional journals will be abstracted in the appropriate section of the *Journal*. In addition, each section will carry a complete listing of all Bureau publications not abstracted in that section. In a particular section, each Bureau publication will appear in full, in abstract, or listed with reference data.

Two of the Bureau's nonperiodical series—Circulars and Building Materials and Structures Reports—are being discontinued, since much of the material now appearing in these series will go into the new *Journal*. Two new nonperiodical series are being started—Monographs and Technical Notes.

NBS Monographs will consist of major contributions to technical literature which are too long for the *Journal*.

*NBS Technical Notes* will make available communications and reports of transitory or limited interest. *Technical Notes* will be sold by the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C. All other NBS publications are available from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

### Nuts to the Mutts

Eight scattered residential blocks in West Memphis, Ark., have been turned over to the dogs by postmen who are tired of being bitten by dogs, according to an Associated Press dispatch.

The four postmen involved have invoked the protection of a federal postal regulation which says they cannot be required to deliver mail where their safety is menaced by dogs.

National Safety News, August, 1959

## New Kidde carbon dioxide portables awarded highest U.L. rating!



**Belleville, N. J. June 1**—A spokesman for Walter Kidde & Company announced here today that six of the company's new portable fire extinguishers have been awarded the Underwriters' Laboratories highest ratings for their respective capacities. To those interested in fire safety, this means that, pound for pound, these new Kidde units have more fire-killing power than any other carbon dioxide extinguishers on the market today.

Available in 10, 15 and 20 pound capacities, in either squeeze valve or trigger models, these power-packed Kidde units feature new hose and discharge horn assemblies, which are responsible for their extra fire fighting ability. This hose-horn combination is also being offered as a replacement unit for existing 10, 15 and 20 pound carbon dioxide units, and when attached will upgrade their effectiveness equal to the new ratings.

For more information on these top-rated Kidde carbon dioxide portables write Kidde today.

# Kidde



**Walter Kidde & Company, Inc.**  
845 Main St., Belleville 9, N. J.

Walter Kidde & Company of Canada Ltd.  
Montreal—Toronto—Vancouver

Circle Item No. 44—Reader Service Card

**National Safety  
Calendar users  
LOOK INTO  
THIS BIG  
SAVING!**



**2%  
DISCOUNT!**

Those of you who wisely plan to put the National Safety Calendar to work for your safety programs, can reap a profitable reward by sending your orders in right away! For all orders received before September 30 are eligible for a 2% discount if received complete with imprint instructions and if payment is made within 30 days following the date of the invoice. This special discount will apply to the **NET AMOUNT** of the invoice . . . in other words you get an *additional* discount after the regular 10% discount for Council members! Look into this worthwhile saving! Send your order for National Safety Calendars in to us, today!

**NATIONAL  
SAFETY COUNCIL**  
425 N. Michigan Ave.  
Chicago 11, Ill.



**Employee Booklets**

EMPLOYEE education booklets are a basic part of your safety program. The National Safety Council publishes a wide variety of such booklets which can help shape sound safety attitudes or instruct your employees in the safe practices related to their work or off-the-job activities. Sample copies of recent booklets are available by circling the key number of the ones you want on the Reader Service Card at the back of this issue.

**YOUR FUTURE—KEEP IT CLEAN**

A booklet dealing with the problem of housekeeping in the plant. Colorful cartoons with breezy captions build a strong case for good housekeeping. Teaches workers that a clean, well-kept plant is a more pleasant place to work in—and safer. Stock No. 195.79. Eight pages, 3½" x 6¾", full color illustrations. **Circle No. 503—Reader Service Card.**

**WHAT TO DO ABOUT HOME INJURIES**

A valuable reference book covering the prevention and emergency treatment of most home injuries. A must for every home. Easy to read, illustrated, the booklet is approved by the American Medical Association and the American National Red Cross. Stock No. 599.64. Thirty-six pages, 5½" x 8½", two-color illustrations. **Circle No. 504—Reader Service Card.**

**THE PROFESSIONAL TOUCH**

"Professional drivers are made—not born!" and this booklet shows how the average driver can acquire the techniques used by the "pros" to avoid accidents. A valuable booklet both for commercial drivers and passenger car drivers of all ages. Amusing illustrations. Stock No. 294.08. Twelve pages, 3¾" x 8", printed in two colors. **Circle No. 509—Reader Service Card.**

**ARE YOU SAFETY MINDED?**

An amusing "rogue's gallery" of cartoon characters representing "types" of unsafe workers. An effective way to reach employees having the same attitudes and ways to help change them. Stock No. 192.15. Sixteen pages, 3¾" x 8", full color illustrations. **Circle No. 510—Reader Service Card.**

**TIME FOR FUN**

"Careless driving is just a lot of waste motion," this new vacation safety booklet advises. Its purpose is to help bring your employees back from vacation safe and sound. In addition to safe driving, it covers safety in swimming, boating, fishing, and camping. Stock No. 194.38. Eight pages, 3¾" x 8", full color illustrations. **Circle No. 512—Reader Service Card.**

**WHAT'S IN IT FOR ME?**

This booklet takes a good, hard look at the whole idea of safety—strictly from the worker's point of view. It shows how the worker stands to profit from a good safety record and it explains management's motives in a forthright way. Stock No. 192.09. Sixteen pages, 3¾" x 8¾", full color illustrations. **Circle No. 513—Reader Service Card.**

**A PROFESSIONAL CODE FOR DEFENSIVE DRIVING**

Dedicated to the millions of professional drivers who developed and refined the concept of "defensive driving" as their approach to the hazards of the highway, this booklet presents the defensive driving technique for all drivers. Stock No. 294.09. Twenty pages, 4¼" x 8¼", multicolored illustrations. **Circle No. 514—Reader Service Card.**



# Keep 'Em

NEW SAFETY POSTERS  
AUGUST 1959

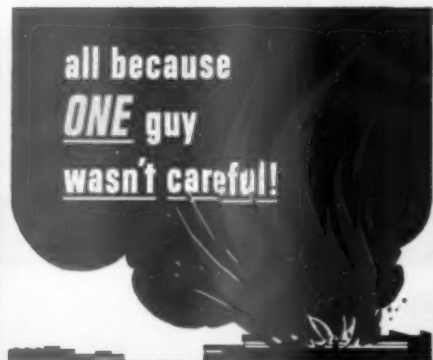
Regular poster users will receive this bulletin by mail each month. Add it to your 1959 Poster Directory to keep it up-to-date.



... FOR EFFECTIVE RESULTS  
IN YOUR SAFETY PROGRAM

*Put new posters up... hold your accident rate down*

all because  
**ONE** guy  
wasn't careful!



JUMBO POSTER FOR OCTOBER 1959

## JUMBO POSTERS

Giant safety messages that are 11'8" wide by 9'11" high. Colorfully printed and weather resistant, these posters command attention. Issued monthly, JUMBO posters will add drama and impact to your safety program... and get big results!

## SAFETY BANNERS

A powerful safety message, skillfully designed and colorfully printed on cloth. They measure 3½ ft. high by 10 ft. long. Available in 2 types—outdoor and indoor. Issued monthly, these banners can be spotted in strategic locations in and around the plant.

NATIONAL SAFETY COUNCIL

*Fires can be prevented*

# DO YOUR PART



V-1680-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

1671-A

8 1/2 x 11 1/2



You'll be in the soup too  
if you don't use your  
head about **FIRST AID**

1540-A 8 1/2 x 11 1/2

## THERE'S AN EFFECTIVE POSTER

... for every problem  
... for every program

This is the month to plan to use five posters in October—such as number 1671-A adjacent. Also, for alternate specific subjects, you can emphasize personal protective equipment—see number 1669-A and 1454-A.

For additional posters on these subjects, refer to your 1976 Poster Directory.



1600-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

1436-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

1669-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

1454-A

8 1/2 x 11 1/2

**STRIKE**



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© NATIONAL SAFETY COUNCIL

1636-A 8½x11½



**TIME  
RUNS OUT**  
*on the Chance Taker!*

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© NATIONAL SAFETY COUNCIL

1613-B 17x23



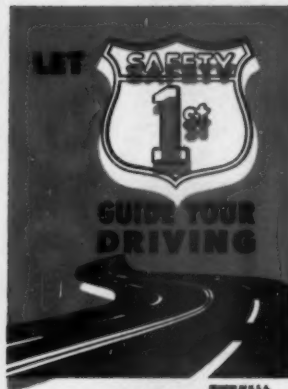
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1449-A 8½x11½



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1571-A 8½x11½



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1628-A 8½x11½



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V-1688-A 8½x11½



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V-1679-A 8½x11½

# YOUR **POSTER** PROGRAM SELLS SAFETY... 'ROUND THE CLOCK!

You can't beat National Safety Council posters for adding *visual impact* to your safety program. They're the "color spectaculars" that make repeated visual impressions of the importance of safety in your workers' daily lives, in and out of the plant. Poster subjects should be related to plant accident experience, thus pinpointing causes, hammering home prevention ideas and achieving effective results. For further information or program planning aid, write direct to the Membership Service Division, National Safety Council.

Here's  
how  
to use  
posters  
most  
effectively

## 1 SELECT POSTERS FOR VARIETY

Select a balanced supply of posters in a variety of size and the proper proportion of thought-provoking vs. inspirational, serious vs. humor, long messages vs. short.

## 2 PLACE POSTERS STRATEGICALLY

Tell the effectiveness of different locations. Use short "flash" type posters where traffic is on the move. Longer messages are more effective when workers congregate or move slowly—such as washrooms, lunchrooms, toolrooms, smoking areas, etc.

## 3 DISPLAY POSTERS ATTRACTIVELY

Provide bulletin boards or frames for displaying your posters. Most important of all, see that your posters have adequate lighting, natural or electric, so they can be easily read and read. Select the proper height for display in locations where viewers are walking or seated. Do not crowd too many posters together or clutter them by surrounding with other material.

## 4 CHANGE POSTERS FREQUENTLY

Posters and material for permanent display should be changed once a week. Regular rotation of posters means maximum interest and maximum learning service to men of the importance of safety in their jobs.

## ORDER YOUR **POSTERS** TODAY!

Cash in on the timeliness, repetition and continuity of a poster program by placing your order now. Order posters from this bulletin or refer to the National Safety Council 1959 Poster Directory. The complete directory is available for 60c a copy. An automatic monthly poster service is also available at an annual low cost. Write The National Safety Council for further information.



### POSTER PRICES\*

Cat. No.	Type and Size	Single	2 to 9	10 to 99	100 to 999	1000 to 4999
182.13	"A" (8 1/2 x 11 1/2)"—Any selection, each	.....	.....	\$ .12	\$ .07	\$ .06
182.23	"B" (17" x 23")—Any selection (except prefix "T"), each	.....	.....	.23	.195	.155
381.23	"B" (17" x 23")—Any selection with "T" prefix, each	.....	.....	.20	.185	.132
381.31	"C" (25" x 38")—Any selection	.40	.40	.30	.24	.22
184.41	JUMBO POSTERS—Annual subscrip., each (12 posters)	\$ 69.00	67.00	65.00	61.00	
188.51	SAFETY BANNERS—Annual subscrip., each (12 banners)					
188.51	INDOOR	93.00	87.00	83.00	79.00	
	OUTDOOR	100.00	95.00	90.00	85.00	

\*Members receive 10% discount on these prices. Please enclose check or cash with orders less than \$3.00. Prices are subject to change without notice. Quantity prices apply only on a single shipment to one location. Other terms are stated in official price lists.

**NATIONAL SAFETY COUNCIL**  
425 N. MICHIGAN AVE. • CHICAGO 11, ILLINOIS



## JACKSON Vinylfoam Sweatbands

Offering the utmost in comfort and highly moisture absorbent, these new sweatbands are now furnished, at no extra cost, as part of the plastic headrests of Jackson goggles and of the type J-1 face shield. They hold the headrest more firmly on the head and will keep their bright, clean appearance by being easy to clean or sterilize. As replacement parts they fit all Jackson headrest goggles and J-1 face shields now in use.



Goggles W-70, W-60 and W-50 have plastic headrest with telescopic arms for firmer fit, easier positioning. Now more comfortable than ever with new sweatband, part 41.



Popular face shield type J-1 with wide choice of visors in clear and in shades of green. New vinylfoam sweatband, part 27, fits the headrest of type J-1 and goggles BX.



New Vinylfoam sweatband part 74 is offered as an optional part on the Adjust-O-Lok headgear of Jackson welding helmets and the Musketeer face shield. Quickly fastened with snap buttons, it makes this unequalled headgear even more comfortable and fit more firmly.

Sold Everywhere by Better Welding Supply  
and Safety Products Dealers

### Jackson Products

31739 Mound Road, Warren, Michigan  
Circle Item No. 70—Reader Service Card  
National Safety News, August, 1959

## Practical Conference

—From page 25

**Planning the Conference.** The Western Oil and Gas Association's Safety Committee divided the state into four regions: (1) San Joaquin Valley (2) San Francisco Bay Area (3) Santa Barbara coastal area and (4) Southern California. Each region has its own autonomous safety committee. With the addition of operating men, this committee becomes a steering group having the responsibility for organizing and conducting its own regional conferences. The general theme of each conference is determined by the association's safety committee.

Supervisors prepare their talks within the scope of the general theme and do not get any writing or public-speaking assistance from departments in the member companies.

In November or December the association's safety committee fixes the dates and places of the spring conference and decides on the theme and a broad outline of the program. In January a letter is sent to managements of association members requesting approval for participation by one or two of their men on the conference steering committee. This is made up of operating supervisors and staff safety engineers in about equal proportion.

The steering committee then proceeds to select 8 panel chairmen and 32 speakers from the various segments of the industry, from oil drilling to marketing. Panel members spend 50 to 100 hours assembling information, putting it into written form, redrafting it, and re-drafting it, until they are ready for their first dry run. At several such sessions the panel members do a thorough job of taking each paper apart and making constructive changes in its content and presentation.

By the time the conference date arrives, speakers have developed a built-in confidence that shows in their delivery and the way they answer questions from the floor.

**Everyone's in the Act.** Contributions by representatives of top managements left no doubt in anyone's mind as to their interest. Big or

  
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RAY-D-8<sup>®</sup> WARNING FLAG
  

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### SAFETY ON THE JOB!

WRITE FOR ADDITIONAL INFORMATION

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High visibility Scotchlite reflective signs available on pressure-sensitive sheet or mounted on aluminum! Standard warning signs for all plant entry, area or "in plant" purposes. New IPCO Ray-D-8 utility flags assure extra visibility, extra protection—day or night. IPCO signs, flags, cones and plastic barrier rope give you the most for your safety dollar. Depend on IPCO for all your safety needs . . . write for complete safety products catalog.

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**SAFETY PRODUCTS**  
**INDUSTRIAL PRODUCTS COMPANY**

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Circle Item No. 45—Reader Service Card

small company, foreman, vice-president, president, engineer, mechanical or chemical superintendent, research man, manager, or port captain, all had their say.

Judging from the audience reaction, the worthwhileness of the affair was beyond question. Close attention given to speakers, and freedom of exchange of views and ideas after each presentation, clearly indicated the writer was not witnessing a perfunctory performance designed for showcase purposes.

Here was something rooted in sincerity, devoid of formula, challenging in its philosophy and coldly analytical of the problems of an industry that has much in common with an integrated steel plant in the nature of its hazards.

**General Session Panel.** One question put to the panel members of the general session was: "If there is a safety problem, should a professional safety man be called in to give a 'whooperdoo'?" This answer was offered: "The foreman should handle anything that is a continuing or long-range problem. The pep talk type of approach is

not effective. The professional should be called on only on such things as a specific operational hazard." A few brief exchanges between members of the panel took place before the answer was arrived at.

Another question was: "Is there any single problem that stands out in safety?" The answer was prompt—"Attitudes."

We were impressed with the panel's grounding in safety philosophy, human understanding, practical application of basic principles of sound management-employee relationships and readiness of responses. These factors stemmed from well-oriented thinking.

**Particular Panel Sessions.** The conference atmosphere was uninhibited. Speakers were relaxed. Questioners in the audience were straightforward. From 5 to 35 questions were directed at each speaker, an average of 15 questions per speaker. Bluntness was not avoided where conflicts of interest were involved.

For example, a contractor speaker was asked why contractors did not hold regular safety meetings. He

candidly replied that contractors do have safety meetings, but they necessarily had to have them on the run. They do not feel it necessary to bird-dog a group, but they are watchful.

They supervise—see what the men are doing and how they do it and take corrective action, if necessary. They feel that, otherwise, safety meeting time would be a direct charge to the operator, who would not appreciate the cost.

Speakers were not hesitant about telling of their mistakes, their reluctance in accepting responsibility after a major accident, and how—after thorough re-examination of the facts of the case—they did a complete turnabout. These men realized that such investigations are not *goat-hunting* devices, but rather tools that furnish the means of preventing recurrences.

The engineers—chemical, mechanical, research, civil, petroleum—translated into simple, understandable language their scientific and engineering know-how and its applications to job situations.

With few exceptions, speakers made copies of their formal talks

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**CROSBY WIRE ROPE CLIPS**

Red-U-Bolt\* for instant recognition

- Drop forged base
- Base grooved to fit rope
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Write for free specifications catalog listing the most complete line of drop forged fittings for wire rope and chain.

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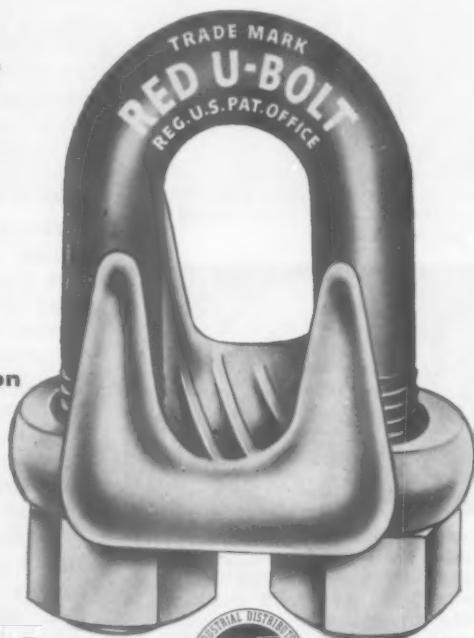
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available for audiences. This was much appreciated. In almost every instance there were few copies left—or none. Exceptions involved speakers whose presentations consisted mostly of sound slides or other visual aids.

To indicate the panelists' freedom of expression, this note was on the title pages of the talks: "The views herein expressed are the author's and are presented as a part of a discussion program. They do not necessarily reflect the official views or practices of this company or of the Western Oil and Gas Association. Other practices which may be as conducive to safety as those set forth here will also be discussed at the conference."

We were intrigued by the answer of a district engineer to the question, "What about off-the-job safety?" He is convinced that "if an on-the-job program really works, it should carry over to off-the-job living." Incidentally, there were indications that many of those present felt management can do its best work on off-the-job safety by concentrating on situations in its control.

A young engineer—a production foreman—commented on the advantages of having a mutual agreement with the local fire department. He stressed the need to have plant fire fighters work occasionally with their city counterparts, so each group knows what to expect from the other in time of emergency at pumping or refinery installations.

Occasionally we jotted down comments on the proceedings. A typical note said: "... chairman does excellent job of leading conference and stimulating questions." Yet another, "Good participation. Good discussion. Good leadership."

Two points of view involved the rotation of crews between foremen. One point touched on the *sacred feeling* of keeping a gang together. The speaker was of the opinion that this idea was being over-worked. Admittedly, a good foreman will build his men into a good crew, and this is fine for a young fellow starting out. But what would be his chances for training and development under a poor foreman?

On the other hand, men once established in a good group do not like to be shifted around. Foremen

are disturbed if their team is broken up and in such a frame of mind may lose some of their concern for safety. It was recognized that a program of limited rotation may be good if it accomplishes a planned objective of development of well-rounded employees.

A general foreman stated that his company has a general policy of starting all newly-hired men through its maintenance activities. The result is a big turnover in maintenance personnel. However, a carefully selected, trained, and experienced skeleton organization has been set up to counteract the effect of the high turnover.

This same supervisor said the job has to be made interesting to combat boredom and mental laziness. There is the basic need to explain how a man's job fits into the whole pattern of organizational objectives, why the job is necessary, and what would happen if it were not done. The supervisor made it a practice to build up group thinking to the point where keeping oneself as neat and clean as the job will permit is considered the thing to do.



**new** **MSCO**  
QUALITY

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lightweight army-type  
folding stretcher

WEIGHS ONLY 7 1/4 LB...  
SUPPORTS MORE THAN 400 LB

Of aircraft-type aluminum tubing and V.I.N. (vinyl-impregnated nylon) construction, MSCO UtiliPort is the modern answer to many stretcher needs. Rigid, aircraft-type aluminum tubing... light in weight, yet extra strong... fireproof, noncorrosive, easy to clean... comfortable plastic hand grips. V.I.N. bed is long-lasting either under heavy usage or lengthy storage. Unaffected by moisture, mildew, or rot... resistant to aromatic and acid gas... flame-resistant, cold-resistant, colorfast. Economically priced... lets you place stretchers at all strategic locations for on-the-spot care of the injured. Takes only 37" x 3" storage space... choice of fabric carrying pouch or metal wall case.

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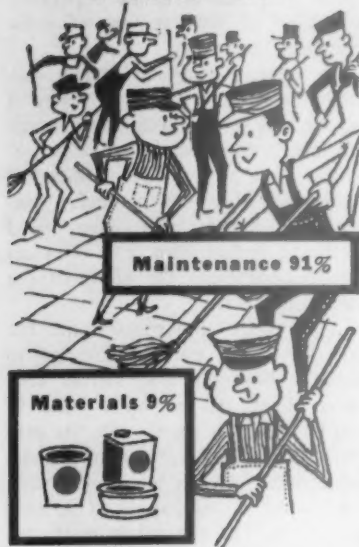
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A dollar or two saved by buying inferior polishes might put a smile on the Purchasing Agent's face. But, Mister, that's chicken feed compared to the *real* money LEGGE saves you on upkeep.

LEGGE Safety Polishes stay on the floor where they belong. Heavy traffic won't walk 'em off. They outlast ordinary polishes by up to 8 times. After the first application, a light daily touch-up program replaces the labor-consuming routine of stripping, polishing, stripping, etc.

Materials actually cost you less because you use less. But the big payoff is: you save up to 40% on maintenance. A famous institution lopped \$19,000 off its annual floor upkeep budget. These are not just claims. These are facts which we'll be delighted to *prove* whenever you say the word.

May we arrange an appointment for you with a LEGGE Floor Specialist? No obligation. Or clip the coupon today for our Free booklet, "Mr. Higby and the Gremlin".



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Circle Item No. 48—Reader Service Card

He said the system of tagging out equipment is rigid. For example, one of his company's wells was shut down for two days because the electrician had gone fishing on his regular off-time period and had neglected to remove the tag. Attempts to reach him were unavailable until his return, but the tag stuck until he took it off.

**Conference Feedback.** Earlier we referred to evaluation sheets in triplicate, which asked eight questions to determine reactions and evaluate the morning and afternoon sessions, the speakers, their topics, personal participation, what problems would be appropriate for analysis at the next conference, what improvements could be made in the various sections, and what was liked or disliked about the conference as a whole.

We took a sampling of the evaluation sheets turned in and found the comments had many points in common. Some of these mentioned a greater "realization of the responsibility for safety by first line supervision" and the role of "top management." The conference as a whole was "interesting and informative." The speakers were "very good" and came "well prepared." Others said, in effect, "keep up the good work."

Improvements were suggested with respect to: better use of the microphone by speakers, adhering strictly to the order of speakers as listed, more humor and greater participation from certain segments of the industry. A few persons questioned whether the talks were not more production- than safety-oriented.

Personal preferences for topic and speaker varied, but the great majority of conference participants took home a message helpful to them in their work. Three or four learned nothing new, but attested to the high quality of the conference and the commendable way in which subjects were handled.

**Props.** Audio-visual aids were of a high order. Only in one instance did the public address system fail. There were maps, charts, slides, and movies, together with demonstrations such as the blind-folding of the panel members in the laboratory section to illustrate the helplessness of a blind person.

safe — dependable

## Ladders for Industry



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Complete line industrial aluminum ladders. Step, warehouse, extension, and specialty models. Require little maintenance.

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1 to 12 step all-steel mobile Ladder-Stands. Move easily on retractable casters.

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Non-conducting, non-absorbent. Available in straight and extension models. Ideal around high voltages and chemicals. Fiberglass side rails with aluminum rungs.

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Circle Item No. 49—Reader Service Card  
National Safety News, August, 1959



**Conclusion.** Looking at the conference in retrospect, we must first pay high tribute to the organization, the arrangements, the hours of preparation by panelists, their earnestness, and the audience participation.

There is ample evidence to show that oil industry line management, from the president to the foreman, takes its responsibility for safety with unaffected seriousness. There is every indication of a struggle against complacency and an ardent desire to do better.

To those few who say they learned nothing new, we would like to state that basic principles and techniques bear reaffirmation. Experienced people are apt to forget that some of the things they learned 20 or 30 years ago are new to the beginner.

When hearing these repetitions, the experienced men should recall one of the essentials of effective training—"tell and tell." They could ask themselves how well they apply this knowledge to the things they do, or better yet, how they have improved in its application since they last read or listened to similar safety information.

They also forget that this *old hat stuff* is presented to help them, as well as for the newcomer's benefit. Such refreshment of their knowledge enables them to do a better job of instructing the less experienced to whom they owe the same obligations that their own early instructors felt toward them.

Varied reactions demonstrate that the talents, natures, and minds of men are so varied and dissimilar that they all cannot be led and moved in the same way by personal contacts, meetings, audio-visual aids, rules, and procedures.

The needs, drives, motives, adjustment, the complexities of personality—in effect, the entire psyche—leading them to be for or against these things are not the same in all men and do not remain the same in each man.

The WOGA conference is an excellent example of what an industry association can do for its membership in advancing their effectiveness in accident prevention. WOGA furnishes an open forum where each man can sit down and talk about his achievements, goals, and problems, and seek the solutions that other companies have to offer.



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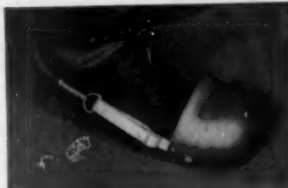
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## Power Press

—From page 21

should be made applicable to all those involved, from the design engineer to the operator. Above all, make the policy statement noncontroversial.

For example, our policy statement says: *Use limited ram or die travel, wherever possible.*

This is supplemented in our safe procedure, with such examples as short-stroke presses, multi-slide presses, or Wiedemann presses.

Under short-travel dies we refer to sub-press dies, sandwich dies, bumper dies, then specify the need for supplemental guarding between the top of the punch and the face of the ram.

Under barrier guards we list three permissible types: fixed barrier guards, interlocked barrier guards, and a combination die enclosure and fixed barrier guard.

Under two-hand electric controls we spell out clearly that foot-pedal control is not permitted on such operations; a "fail-safe" control circuit has to be used. We point out the need for careful positioning of control buttons on positive clutch presses, also several other limiting factors necessary in two-hand controls.

In the requirement for dual control on hand-feeding operations we admit a weakness in our "hands outside the die area" policy. This is occasioned by the fact that we have some 2,500 presses scattered throughout a hundred plants. Our biggest problem here is the fabrication of service parts, where less than 100 parts per year are fabricated from a die that is possibly 10 to 20 years old and designed for hand feeding. Hence, the requirement for dual protection in which we point out the weakness in each of the devices used.

### 2. Post the Policy

. . . On bulletin boards, print it in safety booklets, or wherever necessary so all levels of management and all employees are thoroughly familiar with it.

It should be a definite part of on-the-job instruction to show the employee the posted policy and



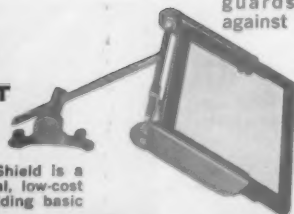
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draw his attention to any penalties for infractions. Don't overlook the fact that the policy is directed to others besides the operator. Post a copy in the tool design office, the tool and die room, or, if your dies are made outside, select those statements of policy that relate to safe dies and make it part of the contract.

### 3. Set Up a Control Over New Equipment

Machine tool builders can do a terrific job in giving you safe operating equipment, provided you know what is available and specify what you want. To do this, you must work closely with your machine tool purchaser by setting up standard purchase requirements and arranging to have any deviation from standard cleared through the safety engineer.

You must realize that press manufacturers are in a highly competitive field and must show competitive prices. In general, they show a bare press priced accordingly, but they are more than pleased to add elements which will increase safety of operation.

Your purchasing agent, unless otherwise instructed, buys from the catalog. You can't criticize him for buying unsafe equipment, if you haven't taken steps through the proper channels to have all orders for power presses stipulate clearly the required elements for safe operation. In other words, press manufacturers will give you what you want, provided you specify it in the purchase order.

### 4. Capitalize on Major Repair Jobs

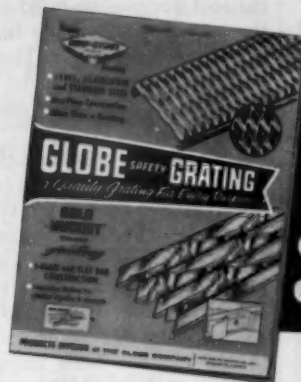
Here is an excellent opportunity for conversion from positive clutch to friction clutch. (Packaged units are available from most manufacturers and parts suppliers.) This is also a golden opportunity for the replacement of out-of-date mechanical or pneumatic two-hand devices with modern equipment.

Have a working agreement with your pressroom superintendent or machine tool repair supervisor to get in on all estimates for major press overhauls.

### 5. Coordinate Tool Design

... So the product designer will provide sufficient money to permit

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116

the tool designer to build a die that the operating supervisor has agreed can be operated safely. The tool design department should be required to develop dies that meet press safety policy.

Here is the crux in safe operation—building dies that can be operated safely. This isn't easy because most die designers have been brought up on the philosophy of making the die as cheaply as possible, consistent with good die life. The problem of feeding material into the die has been dumped into the lap of the operating supervisor.

When you criticize the tool designer on this score, he reverts to the story that there is just so much money allocated for tooling the job. This shows a need for getting your policy back to the initial source. In fact, it would be good practice, if you should have an amputation, to include the tool designer on the the investigation committee. Make them share responsibility for operation failures.

### 6. Train Die Setters

The die setter is one of the key men in safe press operation. He should be held fully responsible for safe die installation before the press is turned over to the operator. He must be trained so he will realize and accept this responsibility. We have a seven-session course for die setters that includes two movies.

This isn't a safety course. It's a course in die setting, with only one session labeled "safety." Every chapter, however, tells them how and why they should do the job the right way. The movies are home-made from operations at our Lima plant.

Safe press operation, it seems to me, must involve the person who makes the setup for the operator. At Westinghouse we hold the line supervisor fully responsible for safe operation, and he delegates the job of making safe press setups to the die setter.

It's the die setter's job to be sure all guards are in place and functioning before he turns the job over to the operator. In one of our plants they supplement this by requiring the quality control inspector to verify the safety of the operation when he inspects the first piece that comes off the press.

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**National Safety News, August, 1959**

## 7. Specify Supervisor's Responsibility

For the program to be fully effective, each supervisor must be held accountable for the safety of the operator. Supervisors should be given a copy of the *Punch Press Policy* and be fully trained in its applications.

We have found application of our key-points program quite useful as an aid to the supervisor. In it, he is required to complete a key-points card for each job under his supervision. This is a simple method of recording the key safety factors of each job, then using the card as a talk plan when discussing the job with new employees and periodically with others on the job.

This Key Point Program is not limited to press operation. It was introduced several years ago to cover all manufacturing operations. Through it we spell out the basic key points for safety on each job. Many other companies have found similar job appraisals effective.

## 8. Recruit Safety Observers

You may have safety committeemen who help in controlling unsafe practices. We use safety observers and give them a five-session training course. They are qualified to judge safe practices and encourage operators to follow them.

These safety observers provide the employee participation part of our safety program. When carefully selected and trained, they do an effective job in reminding fellow employees of the safe way to do the job. They are also quick to bring to the attention of supervision any unsafe condition that may develop.

## 9. Instruct Operators

They should learn the proper way to do each job and be made aware of steps taken to safeguard operations. Written instructions on safe procedures should be given. Penalties should be written clearly and enforced.

At our Standard Control plant, where electrical control equipment is manufactured, an instruction card is mounted on each press. The card outlines a die color code that specifies the type of die protection required by the color painted on each die shoe.

—Turn page

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## 10. Keep Your Program Up-to-Date

The safety supervisor must keep abreast of developments and be fully informed of changes in federal and state laws. Incidentally, I hope all of you have a copy of American Standard B11.1, *Safety Code for Power Presses and Foot and Hand Presses*. This standard is now under revision by several sub-committees. We have several worthwhile changes under consideration, and these should be acted on by the full committee this year.

Another good reference that should be available in the near future is the *Power Press Safety Manual*, being developed by the Power Press Section of the National Safety Council.

To set up your press program you will do well to include each of the 10 steps. I realize that many of you have already progressed through several of them, though perhaps not in the order given. To you, I suggest re-appraisal of your program. Make a list of the missing steps, and progressively pick up those that are weak or missing.

Above all, don't be discouraged with a slow start. It may take five years, or even more, to develop a complete safety program.

## More than a Nuisance

—From page 23

Make this simple test: try carrying on a normal conversation. If it is difficult to converse without shouting, further investigation is called for.

A further investigation should take the form of sound-level meter readings and octave band analyzer readings.

The sound-level meter simply records sound pressure levels in decibels for the over-all noise in areas or in a specific location. For specific location readings—for instance, in the work area of one machine—the meter's microphone is placed in a position approximating the worker's ears.

Component pitches of the noise may be identified with an octave band analyzer. It is known that the presence of sound at certain noise

intensities and frequencies during an extended period is more likely to cause auditory damage than other pitches. If work areas or specific locations give readings in the octave bands of 300-600 or 600-1200 cycles per second at intensities greater than 85 db., a hearing conservation program is likely to be a worthwhile investment. At more than 95 db., such a program should be mandatory.

Findings of the sound level and octave band survey should be permanently recorded. Further, additional periodic checks should be made to measure the effects of your noise reduction program to be incorporated in job descriptions and for possible use as evidence in litigation. A system for recording such data is the hearing conservation card and IBM code prepared by the research center of the Subcommittee on Noise in Industry, American Academy of Ophthalmology and Otolaryngology.

**Noisy machines.** Here are some basic rules:

If possible, quiet the noise before it occurs. Before embarking on a new operation, determine whether a quiet process will do the work as well as a noisy one, such as welding over riveting.

However, in most cases it is not possible to re-equip a shop simply to overcome hazardous noise levels. But, there are a few ways of minimizing noise.

Some machines may be placed on resilient mounts, so floors, walls and supporting building members will not act as sounding boards. Generally, this is easier to accomplish on concrete floors than on wood floors.

Mufflers can be effective on machines discharging high-velocity steam and air, such as gas turbines, air nozzles and steam safety valves.

Some machines are especially noisy, because parts of the machines or nearby surfaces are resonating. A coat of asphalt or other damping material will help quiet the noise.

In some cases, it is possible to quiet an operation by modifying it without added cost. For instance, shearing, blanking and punching are naturally noisy. But noise can be minimized, if the punch is angled so the metal is cut with a slic-

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ing motion. In punching it is sometimes possible to stop the punches, so there is a series of small noises instead of one bang.

**Maintenance.** Good maintenance can minimize machine noise. Automatic feeds, clutches, bearings and gears should be checked regularly, so improper clearances do not add to noise. Noiseless gears should replace the square-cut variety.

Guards and similar auxiliary parts should be kept tight to reduce vibration. Lubrication procedures should be followed meticulously. Rubber wheels may replace metal ones. Metal bench tops may be covered with wood.

**Acoustical treatment** can often cut down the noise level of an entire plant or a limited area. Acoustic tile, ceiling baffles, or shields, where practicable, will cut down over-all noise levels and make the remaining noise less bothersome.

**Isolation**, where practicable, is an important move toward solving the noise problem. It may be possible to enclose offending machines completely, or at least fence them off.

**Personal protection.** Even where acoustical treatment or isolation is used to cope with machines that cannot be quieted, the men who must work at these machines need ear protection.

Ear protectors in the form of plugs or muffs are effective and available commercially. In many cases use of these protective devices has been made a condition of employment, like safety shoes and safety glasses. It has been demonstrated that at about 4,000 cycles ear plugs will attenuate noise about 30 db.; muffs about 45 db.; plugs and muffs in combination more than 50 db. Thus, in cases of extreme noise such protection can spell the difference between temporary minor discomfort and permanent hearing loss.

**Hearing testing.** Every worker exposed to excessive noise (as determined by the survey of noise levels) should undergo pure tone audiometric tests at the time of employment and periodically thereafter.

These tests should be under medical supervision.

The first test will determine the condition of his hearing, when he starts his new job. It will help determine his physical qualifications for the job.

Periodic retesting will tell whether his hearing is being affected, whether he can continue as is, needs personal protective devices, or should be reassigned to less noisy duties.

Pure tone audiometric testing is relatively simple. Over the long run, the cost of tests will be negligible in terms of total induction costs.

The initial audiometric test must be a threshold test. The audiometer resembles a large table model radio with a variety of dials. The person being tested wears earphones connected to the audiometer. By manipulating the dials, the operator can select a wide variety of pitches and noise intensities to be fed into the earphones. He can also select which ear the sound is to be fed into.

The person being tested signals when he hears a sound. The sounds he hears, or does not hear, tell an



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important story about the state of his hearing.

The threshold acuity test is the most accurate and descriptive type of hearing measurement. It seeks to determine how loud a number of pitches must be before the person being tested can hear them. In other words, it determines the threshold of hearing for the various pitches. Reports of the test are plotted on a chart called an audiogram, which is a quick, graphic representation of a person's hearing.

The threshold test indicates the noise conditions under which a person can work. For instance, an aircraft plant has these standards:

1. Persons with binaural (two-eared) hearing loss ranging from 30 to 70 per cent may not work in very noisy areas or in any area where being hard of hearing might be dangerous.

2. Persons with binaural loss of more than 70 per cent may work in noisy areas, but not where being hard of hearing might be dangerous.

3. Persons with chronic disease of the ears or auditory nerve, whose history indicates they do not resist noise well, who have a temporary hearing loss, or who have a binaural hearing loss of between 20 and 30 per cent, may not work in noise levels greater than 85 db.

4. Persons showing no important hearing loss more than 14 per cent may work in noisy areas.

Periodic rechecks are usually screening tests. While a threshold test takes between five and ten minutes, the screening test may be completed in a minute or two. It simply seeks "yes" or "no" answers as to whether certain sounds can be heard through the audiometer. Except in cases of existing or incipient hearing loss, the answers will be "yes"—assuming the test is given properly and the subject understands his role.

Thus, the elements of an audiometric testing program are simple:

1. Hearing tests should be made part of the preplacement examination, and the rechecking should become a routine, periodic procedure.

2. Someone trained in audiology should conduct the tests. The plant nurse is probably qualified or can learn testing techniques easily. Perhaps the tests could be given through the safety department under medical supervision.

3. High-quality pure tone audiometric equipment is necessary. De-

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Gentlemen: Please ship one Straightaway Model #372-8A, for trial testing. If O.K. will include on my first order.

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COMPANY.....  
ADDRESS.....  
CITY.....STATE.....

Circle Item No. 68—Reader Service Card



**get  
modern  
eye protection  
WITH JONES  
FULL VISION  
VISOR GOGGLES**

**Send for Illustrated Catalogue for Models Listed Below**

CLEARVIEW #1	Clear Lens
GLARESTOPPER #1A	Light Pale Green
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**Choice of 18 hole or Screened Port ventilation**

**ONE-PIECE SHATTERPROOF PLASTIC LENS  
(METHYL-METHACRYLATE)**

**CALL YOUR JOBBER OR WRITE TO:**

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SAFETY-BULLETINS *Free Catalog***

No matter what type of bulletin board you seek—cork, chalk, changeable letter—wood, metal, glass front, lighted—you'll find it in the big NEW Dav-son Catalog. Get yours.



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- Wood or Metal Frames
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**DAV-SON**

*"The Safety Director"*

Flashing Color, Changeable Letter Display for Timely Safety Messages. The most effective safety bulletin made. Write for special circular.

We are manufacturers of bulletin boards for every purpose. Changeable letter directories, production control and sales bulletin boards, organizational charts, cork back boards, and special display boards of all types.

**CONSULT US**

**METAL SAFETY SIGNS**  
Hundreds of stock items—danger, caution, directional



**A.C. DAVENPORT & SON., INC.**

ESTABLISHED 1932

**311 N. DESPLAINES ST., CHICAGO 6, ILL.**

MANUFACTURERS OF BULLETIN BOARDS FOR EVERY NEED

Circle Item No. 70—Reader Service Card

pendable audiometers cost from about \$300.

4. A factor of extreme importance is the testing environment. One of the great advantages of using the pure tone audiometer is that it provides a set of controlled conditions.

But without a controlled environment, the tests may be meaningless to the physician trying to interpret results and to a court seeking facts in connection with a suit.

In most cases it is more convenient to conduct audiometric tests on the premises, if they are to be part of the pre-employment examination and if they are to be given regularly. Prefabricated audiometric testing rooms provide a quiet controlled atmosphere in which tests may be administered accurately.

For those setting up a hearing conservation program, valuable information will be found in a 24-page booklet, *Guide for Conservation of Hearing*, published by the American Academy of Ophthalmology and Otolaryngology, 111 North Bonnie Brae Street, Los Angeles 26.

**The Diary**

—From page 9

was lunch time before the first page was finished—and I knew it was no good. I went fishing.

I spent part of Thursday trying to work around the problems of the opening, and finally gave up. I told Sue that night, "The trouble is, the general overview doesn't come into focus. What I'm going to do is keep the Introduction, throw away all I've done on Chapter I, and go to work on the more concrete chapters that follow. When I've got them blocked in, then I can go back and develop Chapter I as the perfect lead-in to the rest."

So I wrote Chapter II on Friday, Monday, and Tuesday. It was called "The World of the Safety Man," and in it I described the people and situations a safety director deals with. I had lots of fun writing the chapter, and Sue liked it very much.

Feeling virtuous, I took Wednesday and Thursday off, and we had lots of fun as a family, taking the excursion launch to the falls one

day, and teaching the older children to dive the second.

Friday I started the first of my how-to-do-it chapter, which I called, "Managing the Management."

In outline it looked good. It would start with first contacts with management as a safety director took over his job. It would tell how to enlist management interest and participation in accident prevention. It would list the more common management objections to safety programs and expenditures. It would cover such things as budgets, reports, public relations, and several others.

So I started to write about meeting the new boss, whether you were meeting him because you had just been hired or because he had just taken over a company you already served. I started describing old man Jackson of Jackson-Barnes, and the tactics of dealing with such a stubborn, stiff-necked old dictator.

Then I realized that men like Jackson are pretty rare in industry today, and I turned to the highly polished, highly-astute man from Eastern Industries who had known almost everything I would say before I said it, who wanted facts, and was quick with support if the facts were clear. But such men aren't too common either, and I thought of the boss I'd known distantly when I was a junior at Monarch, and the old, regular army colonel at the ordnance works. I soon realized that I should have known all along that the slant of my book would have to be such that it would prepare the reader for the whole range of bosses they'd encounter.

So I started to block in my general principles of boss-handling. It went very slowly, and when I showed it to Sue—this was on their fourth Tuesday of our vacation, she shook her head sadly.

"Look, dear," she said. "This isn't as good a job as you can do. It sounds stuffy and generalized. It is an essay in favor of being virtuous, intelligent, and noble. The result is that it is just a string of platitudes."

I sulked over her criticism, and went fishing Wednesday. In the course of catching absolutely nothing, I came to see that she was right.

Thursday I put the boss chapter

aside and started in on one I knew I could do a good job on—foremen.

By Monday I had written 5,000 words on that subject, and I didn't even show it to Sue. I knew it was drivel. It was full of such pearls of the obvious as, "Always consider the foreman's problems. Try to understand his needs. Show him you want to help him. But if he is stubborn, don't be afraid to put the pressure on him through the superintendent. On the other hand, be

slow to go over his head." And so on and on through a fat sheaf of pages that didn't even burn well in the fireplace.

We had some more rain, and then it was Friday, and we had to think about closing the cottage and getting back to town. I still had a Foreword and a Chapter I. The rest didn't even deserve packing in the suitcase.

We talked about it, Sue and I, when we got home. I told her I

Circle Item No. 71—Reader Service Card

## ● HORSE SENSE ABOUT ATHLETE'S FOOT



ONOX is used and approved by schools, clubs and over 70% of the largest industrial plants in the U.S.A.

Scientific research has upset old theories about Athlete's Foot. Skin specialists say that disinfectants are "futile, illogical, and potentially harmful."\* They recommend *skin toughening* to make the skin resistant to fungus attack.

That's good horse sense.

## ● ONOX SKIN TOUGHENER PREVENTS ATHLETE'S FOOT

Onox mineral salts toughen the skin . . . increase resistance . . . prevents fungus growth. No fungus . . . no Athlete's Foot. Bathers like Onox. And it costs only 1¢ per man per week.

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- **FREE FOLDER:** Facts on Athlete's Foot including medical opinions from \*Archives of Dermatology and Syphilology.

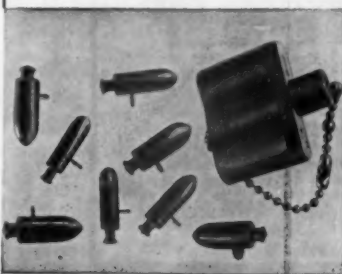
**ONOX INC.** Dept. A, 121 Second St., San Francisco 3, Calif.

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## CUT DOWN NOISE

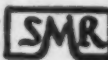
WITH THE S M R

## EARSTOPPER



Soft, comfortable, resilient, the SMR EAR STOPPER adjusts itself to all shapes, turns and movements of the ear canal. Tends to anchor itself in the ear. Has a long life and is reasonable in cost. Furnished in a plastic case. Forty-five cents per set in gross lots.

**SURGICAL MECHANICAL RESEARCH INC.**



1905 Beverly Blvd., L.A. 57, Calif.

Free sample when requested on company stationery.

Circle Item No. 72—Reader Service Card



didn't see how I could have flopped the job so completely. She poured me a cup of coffee, lit my cigaret, and said, "Dear, now you know why nobody ever wrote the book before. You wanted to tell safety men how to live their lives. But how could you do that?"

"A boss isn't a machine guard, made of metal whose properties you know. A foreman isn't a roof truss that will stand so much weight and no more. A worker isn't a fly-

wheel which can be counted upon not to explode if speed is kept below a certain rate.

"You could have written stories about how you worked in specific situations, and they might have helped some men, if they ever encountered the same situation and if they were same kind of people that you are.

"But you wanted to do something more. You wanted to tell them how to argue with comptrollers about

money, in general. You wanted to set up rules for working in a job which is too broad for rules. You wanted to tell them how to outwit the human race for its own good in every imaginable aspect of safety work.

"But what could you say? You could either turn into a pompous know-it-all, laying down hard-and-fast suggestions that would probably mislead more than they helped. Or you could say the few things that are always true, and this means reeling off long lists of platitudes. Honesty is the best policy, dear, but it isn't news. Trying to understand your co-worker is necessary, but who needs to be told that?"

"The trouble isn't with you. The trouble is that you wanted to write a book that is almost impossible to write. If it could be done at all, it would have to be done by a great literary artist who was also a master sociologist, psychologist, and safety engineer. And you are only one of those four things."

"But the things need to be said," I protested.

"Maybe," said Sue. "But your job is to live life, not write it. Maybe one of the boys you train by word and example will write the book some day. But let's face it. You're a doer, and you know the field so well that nothing you write will ever reflect what you know to be the true meaning of what you do in its fullness and complexity."

I had to admit she was right. "But," I complained, "it's hard to face the fact that I just wasted the nicest vacation the family ever could have had together. Five weeks just thrown away!"

Sue leaned back in her chair and laughed and laughed. "Look, my beloved martyr, you've just had five weeks of vacation, sunning yourself, fishing, playing with the children, sightseeing. You didn't spend any more time at your typewriter than you would have spent worrying about the plant and fiddling with cottage repairs that didn't need making.

"Actually, the book was wonderful. It kept you out of the children's hair just enough to make them enjoy you and you enjoy them when you were free. Write a book every vacation, and we'll all have a wonderful time!"

Circle Item No. 73—Reader Service Card



### ...with ACROFLEX, the pliable notched steel strapping

You'll find ACROFLEX as handy to have around your plant as nails and wire. ACROFLEX comes in 10 ft. lengths and can be bent by hand to conform to practically any shape needed. Illustrated above are only a few of the many possible uses of ACROFLEX.

#### Get more facts FREE

Complete information on ACROFLEX is contained in this folder. Write for your copy today. Ask for bulletin A-857.

Territories available for qualified representatives.

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1901 North Buffum, Milwaukee, Wis.

**CLEAN AUTOMOTIVE & INDUSTRIAL PARTS**

**3 WAYS!**

1. Continuous Flow Hose
2. Air Agitated Soaking Tank
3. "Super Power" Jet Air Gun

*A must in every service shop!*

**Kierflo SUPER CLEANMASTER**

MODEL 50

Write for Literature:

**PRACTICAL MFG. CO.**

DEPT. A-8 2840 4th Ave. S. Minneapolis 8, Minn.

Model 30 (less Jet Air Gun) also available

Circle Item No. 74—Reader Service Card



Miss Dorothy Montgomery of Firestone Steel Products Co., Detroit, Mich., won the \$100 first prize in the National Safety Council's "Safety Saving" contest with this line:

The contest appears monthly on the back pages of the Council's calendar. The theme for the May contest was "Lift with Care."

Buell R. Snyder, Shepherd Correspondence School, Philadelphia, Pa., won third prize of \$25 for this line:

The 30 winners of \$5 prizes are:  
Clarence R. Tegtmeyer, U. S. Air  
Force, Griffin AFB, Rome, N. Y.

William Burke, Oliver Iron Mining Div. of U. S. Steel Corp., Duluth, Minn.

William Goldstein, Wheeler Electronic Corp., Div. of Sperry-Rand, Waterbury, Conn.

Robert H. Powell, Duluth, Missabe

Mrs. Frank L. Hanley (Individual

Telephone Co., Milwaukee, Wis.

**Mark Everything**  
 with **BRADY** self-sticking  
 all-purpose  
**NUMBERS AND LETTERS**

If it's to be numbered, marked or identified, this is the low cost, simple way to do it. Brady Numbers and Letters stick instantly, permanently — provide quick identification in *any combination* for areas, columns, aisles, fire stations, pallets, shelves, bins, drawers. Six stock sizes:  $\frac{1}{2}$ ",  $\frac{3}{4}$ ",  $1\frac{1}{2}$ ",  $2\frac{1}{4}$ ",  $3\frac{1}{4}$ " or 5" Black legends on yellow super-strength vinyl-cloth. Specials made to order... variety of colors.

W. H. **BRADY** CO.

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125

**Ends Static Hazards!  
Resists Acid Damage!**

UNION MADE  
**CHEM-WEAR**

**100% Dynel, Anti-Static  
Acid Resistant**

**WORK CLOTHES**

Safe, nationally advertised CHEM-WEAR work clothes are always comfortable. They can be easily laundered without discoloring and will give long service. Wear CHEM-WEAR Shirts, Trousers, Coveralls, Laboratory Coats, Work Aprons and be safe.



**HOODED COVERALLS**

For Boiler Maintenance Men  
Completely covers from head to foot  
Adjustable hood and legs  
Send for Illustrated Folder Today

If Not Available at Your  
Safety Dealer Write to

**M. SETLOW & SON, Inc.**  
Quality since 1896  
131 CHESTNUT STREET  
NEW HAVEN, CONNECTICUT

**CONVEX TRAFFIC SAFETY MIRROR**

• Reduce traffic accidents at blind corners inside and outside your plant—also at loading platforms.

Traffic Safety Mirrors are available in Convex or Flat glass. All have a Yellow and Black Safety Stripe Border.

Round Convex Mirror Sizes  
13" • 18" • 26" • 36"  
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6"x14" 14"x18"  
other special sizes to order  
(Available in Unbreakable Metal Mirrors)

**FRED SILVER & Company**  
Mfgs. of Specialty Mirrors for Industrial Use  
42 Lock Street Newark 3, N.J.

Circle Item No. 78—Reader Service Card

## VOICE OF THE READER

Let's have your view on current topics. You don't have to agree with us

### Misleading Prefix

HARTFORD, CONN. I was very much interested in the article on page 6 of the June News. I think you have overlooked one important reason for encouraging the use of *flammable* rather than *inflammable*; the prefix *in* means *not*.

The word "incombustible" means that it won't burn. In some cases the word inflammable has been interpreted to mean that it won't burn. —M. A. SNELL, Supervising Engineer, Hartford Accident and Indemnity Co.

### Nuclear Planes Safe, Says Scientist

No dangerous radiation would come from normal operation of nuclear airplanes, Dr. C. C. Gamertsfelder, of General Electric's Nuclear Propulsion Department, told a recent meeting of the Health Physics Society.

Main source of hazard, he said, would be in a crash "violent enough to make the jet engines incapable of removing afterheat, resulting in the release of radioactive fission products. Even in such a crash, chances of persons in the area getting a lethal dose of radiation would be some 80 times less than their chances of being killed in an auto accident.

To increase safety, nuclear-powered aircraft could be required to fly over corridors through sparsely populated areas or over water. An added precaution to protect those in such 50-mile-wide corridors would be to fly nuclear planes on chemical fuel until they reached uninhabited country or water. In case of crash, the nuclear reactor would be thermally cold, lessening chances for release of radioactive materials.

**LITE-GUARD  
FLASHER BARRICADE**  
High Visibility 7 inch Flashers  
One and Two Light Models  
Retractable Legs



**MORE USEFUL BATTERY LIFE  
WITH EXCLUSIVE  
ADJUSTA-FLASHRATE control**  
SAFE—DEPENDABLE—LOW COST



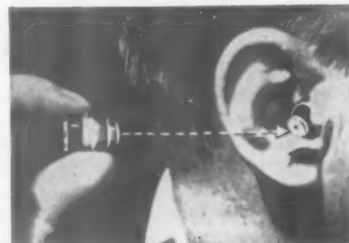
**Park Industries, Inc.**

Department E  
MELVINDALE, MICHIGAN

Territories available  
Write for Free Literature

**HARMFUL Effects of  
NOISE To The EARDRUMS  
ELIMINATED by**

**Lee Sonic EAR-VALVS**



**A FREE 30 Second Demonstration  
will PROVE this BEYOND QUESTION  
We GUARANTEE THAT! Remember  
they are NOT EAR PLUGS!**

They are scientifically developed sound controls that protect the ear drums without interfering with normal conversation or sound. We'll gladly send you a pair for actual demonstration. THEN you will find out why they are recommended and used wherever NOISE is a HAZARD and a deterrent to normal production. Send for your demonstration pair TODAY on company letterhead. No obligation to purchase.

**SIGMA ENGINEERING COMPANY**  
1491 Vine St., Dept. F3, Los Angeles 28, Calif.

Circle Item No. 80—Reader Service Card

**National Safety News, August, 1959**

## THE POSITIVE LADDER SAFETY DEVICE LOCKS-IN-A-NOTCH



**Prevents death and injuries from falling.**

If climber starts to fall, device locks in a deep notch on carrier rail and limits fall to approximately 6 inches — distance between notches.

### LOCKS AUTOMATICALLY and INSTANTLY—HOLDS SECURELY

Will catch and hold workman if he starts to fall, even if unconscious. Cannot slip on down ladder. Requires no attention from climber; he climbs in normal manner. Inexpensive. Easy to install; 3 men can clamp it to ordinary ladder in few hours. Clamps to any rung ladder, peg ladder, pole or framework. No welding or cutting. Notched rail hot-dipped galvanized. Entire equipment rust and corrosion proof. Can be kept free of ice by applying heat inside the carrier rail. In use approx. 11 years. Approved by Safety Engineers and Govt. Agencies throughout country. Patented. Manufactured only by

**SAFETY TOWER LADDER CO.**  
1024 Burbank Blvd. P.O. Box 1032  
BURBANK, CALIFORNIA

Guard Against  
injury loss of life confusion  
**SUDDEN BLACKOUTS**  
destruction panic

be prepared with

**Big Beam**

### AUTOMATIC EMERGENCY LIGHTS

Storage Battery Always Fully Charged—Built-in Charger  
Just plug in a BIG BEAM Emergency Light and rest assured that when regular lights fail, your plant or building will be protected automatically with hours of bright, SAFE illumination. Variety of models available.



### HAND LAMPS • FLARES

Wide range of hand lamps and flares also available, including Explosion-Proof Hand Lantern, Model 287EX for use in Hazardous Locations, Class 1, Group D, Approved by Underwriters' Laboratories.

Write for Bulletin  
on Complete Big Beam Line

**U-C-LITE MFG. CO.** 1027 W. Hubbard St.  
Chicago 22, Ill.

Canada: Bernard Marks & Co., Ltd., 70 Clarendon St., Toronto 2, Ont.

Circle Item No. 82—Reader Service Card  
National Safety News, August, 1959

## Top Plant

—From page 19

boxes, a tote box washing machine makes use of the cleaning solutions, rinses and hot sprays. The tote boxes are fed onto a chain by operators of nearby machines. In this way, boxes don't accumulate oils and dirt. Other parts can be cleaned the same way.

**Painting** is located along a perimeter wall, and most of the drying circle stretches through a roof pent-house. This saves floor space and facilitates heat dissipation and ventilation.

**Lighting.** A fluorescent lighting system provides 35-90 fc. in production areas and 85-100 fc. in offices.

**Emergency power.** A 125-kv. generator, fired with natural gas, is ready for action in case of electrical outage. A smaller emergency generator with similar automatic features is ready to supply power to the machine tabulating department so machines won't clog up, if the power should fail.

**Employee services.** Lockers and washrooms are located at the personnel entrance, and toilets are spotted through the plant.

Hot meals are served in a glazed tile, air-conditioned cafeteria, with additional food service from snack carts in the plant.

Drinking water is provided by unit coolers at convenient locations.

A well-equipped medical room is maintained with a nurse in charge.

**Plant protection.** Enclosing the plant is a perimeter fence with guard shelters at the main gate and the employee entrance. There is ADT supervision of guard rounds and key points of the fire alarm system.

An 8-in. fire main extends along three sides of the plant. Water obtained from the city fills a 100,000-gal. elevated sphere and a 200,000-gal. underground tank. All manufacturing areas are sprinklered. Rosettes and tubing provide alarm coverage for unsprinklered areas. Extinguishers and hose-house equipment and two mobile carts are manned by the plant fire brigade.

## Metal Standard Signs

### PREVENT COSTLY ACCIDENTS

A complete line of indoor or outdoor signs for every need. Fully Approved. Available in two gauges of steel. Write for illustrated catalog and prices.



### STANDARD SIGNS

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## TWO REASONS WHY THE Famous KEY-BAK Key-Reel

CAN CUT  
ACCIDENTS  
FOR YOU!



NO DANGEROUS  
DANGLING  
CHAINS...

KEY-BAK is worn on the belt. Pocket-watch size reel, in highly-polished chrome finish. Swedish clock-spring reels in 24" long STAINLESS STEEL chain. NO DANGEROUS DANGLING CHAINS TO CATCH ON MACHINERY AND CAUSE ACCIDENTS.

**SAF-T-CHUCK KEY-BAK MODEL 2**  
Attach SAF-T-CHUCK KEY-BAK to all drill presses. Chuck key is always handy; SAF-T-CHUCK KEY springs out when released. It can NEVER, NEVER, NEVER be thrown from the whirling Chuck Model 75K — \$4.45 complete with #3 Key; Key available in ten sizes.

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West of Mississippi: LUMMIS MFG. COMPANY  
2242 E. Foothill Blvd.  
Pasadena, California

East of Mississippi: CTL COMPANY  
1710 W. Stewart Ave.  
Waukegan, Wisconsin

Circle Item No. 84—Reader Service Card



CARING FOR WAXED FLOORS IS...



*A cinch  
with Sanax*

*It waxes as it cleans!*

**REDUCES THE FREQUENCY OF REFINISHING**

*Sanax* was developed to permit frequent cleaning of waxed floors *without washing away the finish* . . . and to eliminate waste in wax and labor. A neutral liquid soap with a wax base, *Sanax* not only quickly removes dirt, oil, and grease, but *leaves a thin film of wax*. In fact, regular use of *Sanax* to machine-scrub or damp-mop waxed floors *actually prolongs the life of the finish*, and thereby reduces refinishing costs on a year-to-year basis.

Like all *Finnell Fast-Acting Cleansers*, *Sanax* is specially designed for the greater speed of machine-scrubbing, and works as effectually in a *Combination Scrubber-Vac* as in a *Conventional Scrubber-Polisher*. And because *Sanax* is processed from pure vegetable oils, it's *safe for all floors*.



A 100 Series  
General-Purpose  
Finnell  
11, 13, 15, 18"

Find out how you can simplify and reduce the cost of caring for waxed floors. *There's a Finnell Floor Specialist nearby to help you choose the waxes and cleansers that are exactly right for your needs.* Finnell makes a complete line, so you can depend on unbiased advice. In fact, *Finnell makes everything for floor care!* For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2208 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.



- A mild liquid wax-soap for machine-scrubbing or damp-mopping waxed floors
- Leaves a lustrous anti-skid protective finish
- Highly concentrated . . . economical to use

**FINNELL SYSTEM, INC.**

*Originators of Power Scrubbing and Polishing Machines*



BRANCHES  
IN ALL  
PRINCIPAL  
CITIES



# New

## SAFETY EQUIPMENT

Product announcements in this section are reviewed for compliance with the advertising policy of the NATIONAL SAFETY NEWS. Inclusion should not, however, be construed as endorsement or approval by the National Safety Council.

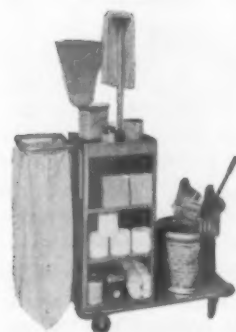


### Steel Lifting Clamp

Bulldog steel lifting clamps do not compete with the company's present line of safety lock steel lifting clamps, but are introduced to meet need for such a clamp.

The new clamp is available in these sizes: ½-, 1-, 4- and 7-ton. This new model is lightweight, compact and has impressive jaw opening capacity.

**J. C. Renfroe & Sons, Inc., 1926 Spearing St., Jacksonville, Fla. (Item 301)**



### Janitorial Cart

Model No. 1117 cart is a compact, sturdy unit constructed to carry the tools required for the janitorial operation.

In addition to space fittings for supplies, such as towels, tissues, cleaners, etc., the forward platform can accommodate the large pail and mop wringer, or vacuum, floor polishing buffer, etc. The carrier is mounted on 4-in. self-lubricating rubber wheels. It is protected against damage to woodwork, furniture, etc., with a patented strip rubber bumper. The 21½-in. wide unit is 48-in. long and 41-in. high. It is constructed of 1-in. welded 16-gauge tubular steel, and is fabricated with automotive body steel.

**Forbes Brothers Co., 820 Santa Fe Ave., Los Angeles 21, Calif. (Item 302)**

### Valve Markers—Cable Tabs

Strap markers of various metals, sizes and shapes are offered with stamped, depressed characters, filled with black. All are intended for permanent identification of valves, electrical switches, and other items involving industrial hazards, if left unmarked.

The cable tags are made of light gauge metal with identification copy or numbers embossed. The valve makers are of heavier gauge metal, usually brass or aluminum, with the lettering stamped into the metal and filled with black enamel.

**Prairie State Products Co., 3822 W. Lawrence Ave., Chicago 25, Ill. (Item 303)**



### Aluminized Fabric

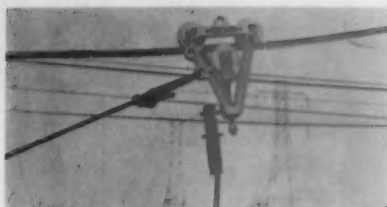
An aluminized fabric with resistance to wear and heat-reflective qualities has been designed for industrial uses involving unusual abrasion and intense radiant heat. The new material for heat-protective clothing is trade-marked "Scotch-Shield" aluminized fabric type 75. It provides an aluminized surface with adhesion to asbestos cloth.

Type 75 aluminized fabric consists of a micro-thin layer of pure aluminum bonded to an underwriters' grade asbestos weighing 1.2 lbs. per square yard. It is said to reflect more than 90 per cent of all radiant heat.

The illustration shows a millworker's apron that was subject to constant abrasion. The apron demonstrates wear qualities of the Type 75 and an earlier type (dark areas) which rubbed off the fabric after use.

**Minnesota Mining & Manufacturing Co., 900 Bush Ave., St. Paul 6, Minn. (Item 304)**

For More Information—Circle Item Number on Reader Service Postcard



## Traveling Ground

No. 795 precision built traveling ground has

many features essential for safe wire stringing. These include: positive ground; light weight; eye for hotstick pickup; bronze oiled bushings; brush pickup with shunts to common ground; brass shoulder bolt axle; adjustment for conductors to and including 795,000 cm. ACSR; replaceable parts; a shouldered pin to attach a ground clamp; vertical or horizontal operating position; installation without threading through; and a Heli-Coil thread in the frame.

**W. M. Bashlin Co., Bashlin Bldg., Grove City, Pa. (Item 305)**

## Transistorized Penetrator

Illustrated are the main components—amplifier—speaker—control box and microphone—of Model 12PT50 Penetrator. The transistorized Penetrator, with weight of less than 15 lbs., is an ultra-compact combination electronic siren, public address and radio amplifier system designed for mobile use on fire department vehicles, police cruisers, ambulances, industrial emergency cars, etc., or as a stationary warning and communication system.

It has an electronic, 50-watt output siren, rated "Class A" by the California State Highway Patrol. The siren gives a powerful, distinctive warning wail.

The control box has a 3-way selector switch. The driver has finger-tip control with manual or automatic siren operation, PA and radio amplification. The override horn relay enables the operator to control the siren at any desired pitch by depressing the horn ring.

Additional features include: low battery drain; weatherproofing; and it can be used with a carbon, transistor or reluctance-type microphone. It does not interfere with two-way radio operation.

**The Fyr-Fyter Co., 221 Crane St., Dayton 1, Ohio (Item 306)**



## Hand Lotion

An ointment for industrial workers with hands exposed to chemicals, oils, grease, solvents, plastics and paint provides protection against rashes.

It is applied like hand lotion, is soluble in soap and water, and protects the hands for 12 hours. It is useful in the plastic, aircraft, electronics and chemical industries.

It can reduce the number of cases of poison oak, when properly applied as a preventive before entering and working in infested areas. This product is anti-histaminic and antiseptic.

**Vanfaire Co., 10732 Riverside Drive, North Hollywood, Calif. (Item 307)**



## Gas & Vapor Detector

The Kitagawa No. 400 gas detector provides on-the-spot determinations of the concentrations of toxic gases

and vapors. No special training or skill is required for operation.

The kit has a hand pump and detector tubes, which measure the concentrations of specific gases and vapors. The same pump and operating procedure are used for all determinations.

The pump draws air samples at a reproducible, fixed rate through the detector tubes, insuring that everyone using the pump will be duplicating the flow conditions under which the tubes are calibrated. An unbreakable plastic sleeve around the cylinder protects the piston and cylinder.

Detector tubes are available for 36 different agents, ranging from acetone to trichloroethylene and perchloroethylene. Each tube contains a colorimetric chemical reagent, which absorbs and reacts with the gas being measured, producing a color stain varying in length or intensity with the air concentration of the gas.

Each reagent has been selected to provide color contrast between the original color and the stained color, and to react selectively with the particular gas. The detecting reagents are absorbed on fine-grain silica gel, hermetically sealed in the glass detector tubes.

The fine-grain size of the silica gel insures uniform distribution of air-flow through the tubes, and provides distinct demarcation lines on all length-of-stain tubes, and uniform color changes on color-intensity tubes.

Two minutes after insertion into the gasket at the pump inlet, the detector tube is removed and the gas concentration read from the calibration-curve or color standards on the detector tube box.

If no stain develops after one pump stroke, the procedure is repeated until a stain develops, and the reading is divided by the number of strokes used. At 68 F., the average per cent error of the tubes is less than 5 per cent. Accurate temperature correction tables are available for each type of tube.

**Union Industrial Equipment Corp., 40 Beech St., Port Chester, N. Y. (Item 308)**

For More Information—Circle Item Number on Reader Service Postcard



## Poison Ivy Treatment

This formula with Hectorite has been devel-

oped for treatment in poison ivy, oak and sumac. In 1-ounce, non-breakable plastic bottles, packed three to a single unit pack, each of the units is wrapped in waterproof polyethylene and may be kept in first-aid kits or carried in a pocket or glove compartment.

Hectorite is a pure mineral with endothermic properties. When the formula is rubbed on the irritated area, a cooling sensation results. The product does not contain thenol, menthol, camphor, alcohol, oil or any irritating chemicals, and may be used around the eyes and other sensitive areas of the body.

When the formula dries, it forms a protective coating over the irritated area. The color of the product is neutral and, once applied, is difficult to see without close inspection.

**E. D. Bullard Co., 2680 Bridgeway Blvd., Sausalito, Calif. (Item 309)**

## Floor Cleaner

Velva-Sheen is a fire and slip-resistant floor-cleaning agent. The product has an ignition temperature of 485.6 deg., according to an Underwriters' Laboratory examination. The product is stable and has no tendency toward spontaneous combustion. UL-slip resistance tests show the product's coefficient of friction to be above the minimum acceptable standards.

**Majestic Wax Co., 1600 Wynkoop St., Denver, Colo. (Item 310)**



## Emergency Eye-Wash Fountain

A wall-mounted, eye-wash fountain (Model No. 7450) is finished in stainless steel that conceals the

trap and other working parts.

It functions like other emergency eye-wash units made by the manufacturer and provides instant first-aid for eye contamination by chemicals, caustics or foreign particles. This can often prevent serious or permanent injury, and provides first-aid pending arrival of medical aid.

The stainless steel is 18-gauge, type 304. A quick-opening lever handle valve activates twin chrome-plated fountain heads that direct streams of water into the eyes. Water pressure and volume are automatically controlled by regulators.

**Haws Drinking Faucet Co., Fourth & Page Sts., Berkeley 10, Calif. (Item 311)**

For More Information—Circle Item Number on Reader Service Postcard

National Safety News, August, 1959

## Steam Cleaning Liquid

Safety steam cleaning liquid F. O. 287 does the work of strong alkalis without fear of damage or injury to persons or equipment. Goggles or gloves are not necessary.

This viscous liquid does heavy-duty cleaning and degreasing of painted and unpainted ferrous and non-ferrous surfaces. F. O. 287 is recommended for jobs from the removing of heavy deposits from the wheels of fork and hand trucks and lift chains to getting rid of lighter soils on such soiled, painted and unpainted surfaces as aircraft. It is non-corrosive to aluminum and will not clog steam generator lines. It is available in 5, 30 and 55 gal. containers.

**Fine Organics, Inc., 205 Main St., Lodi, New Jersey (Item 312)**



## Ear Protector

"Quiet-Ear" is an ear protector for personnel who work near loud noises.

Applicable anywhere, this lightweight, sanitary ear protector offers high noise protection and can be effectively used in various operations, such as at jet airfields, diesel-engine generator houses, steel rolling mills, near punch press machinery, and riveting projects.

**Bausch & Lomb Optical Co., 635 St. Paul St., Rochester 2, N. Y. (Item 313)**



## Safety Mitt

A double-duty, reversible industrial safety mitt of "Iron-Kore" fabric permits natural positioning of the thumb for gripping in handling of heated or sharp objects.

The extra thumb is tucked into the mitt or hand pad across the knuckles, which gives cushion protection for the back of the fingers and turns out for use with the reverse side of the mitt.

The wearing surface of the mitt or pad is of one-piece construction, eliminating seams, bunching of material and uncomfortable, insecure grip.

The fabric forms a semi-porous surface that dissipates heat and resists cuts from sharp metal edges which would ruin smooth-surface gloves.

The Kelnit Klaw design allows dry cleaning or laundering and repair. Each unit is interchangeable for the right or left hand.

**Keller Glove Mfg. Co., Plumsteadville, Pa., (Item 314)**





## Vibratory Signal Horn

The Vibratone is a compact and ultra-flexible, vibratory horn to simplify installation of emergency alarms and coded signals in public buildings, industrial plants, and institutions. The basic horn unit is shown at the top of the illustration.

At the left are two interchangeable horn models—single projector and double projector—which can be attached to the front of the horn. At the right are the mounting accessories which permit each horn model to be mounted six different ways. Three actual installations, shown in the three pictures at the bottom, demonstrate the flexibility and simplicity of installing this new emergency communications device.

The installations include: (lower left) a single projector model used where the alarm must be megaphoned at a longer rate; (lower center) surface-mounted grille model which can be painted over to blend with the interior decor; and (lower right) mounting of the horn inside a standard 4-in. square electrical outlet box.

Each basic horn unit is equipped with an individual volume control, and sound can be adjusted from a barely audible buzz to 101-103 decibels at 10 ft. Although engineered to fit a 4-in. outlet box, the horn can be adapted to mount on existing electrical facilities, such as a handy box or other outlet box of odd size.

**Federal Sign & Signal Corp., 8700 S. State St., Chicago 19, Ill. (Item 315)**



## Floor Absorbent

Auto-Dri is an economy-grade mineral floor absorbent for use where higher absorbent efficiency is not required.

This substance is a granular atapulgitic which automatically absorbs liquids, removes them from the floor and prevents them from being tracked to other areas. It absorbs liquids without becoming mushy, and provides a slip-proof surface.

Spread by rake or broom, the product cleans oily or greasy floors and can be swept up for re-use. It is noncombustible and will protect wood or composition floors from sparks generated by welding, grinding or other metal-working operations.

When spread on floor areas where oil or grease drips regularly, the product reduces fire hazards and floor cleaning expense, and provides a surer footing.

**Speedi-Dri Div., Minerals & Chemicals Corp. of America, Menlo Park, N. J. (Item 316)**

For More Information—Circle Item Number on Reader Service Postcard

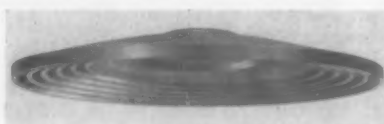
## Plasticized Fabric Glove

A plasticized fabric clip-on glove with cotton back is reportedly comfortable, durable and inexpensive.

The wearing surface of the glove is made from cotton, whose face fibers have been impregnated with vinyl, to make a light, oil-resistant, wear-resistant product that combines the feel of cotton with long-wearing qualities and high-strength ratio of vinyl plastic.

At the same time, the all-cotton back promotes breathing for maximum comfort. The gloves are uniform from pair to pair, have abrasion resistance and are thin and comfortable. They are available for men and women.

**The Olympic Glove, Co., Inc., 95 Madison Ave., New York 16, N. Y. (Item 317)**



## Center Wheel

A safe fast-cutting

dished-depressed center grinding wheel has three layers of fiberglass resin-bonded and molded to shape. The wheels are strong and resist breakage, having nearly a 2:1 safety-plus ratio over conventional depressed center wheels.

This safety factor is made possible by the third layer of fiberglass fabric, reinforced molded throughout the critical bottom side.

This advanced wheel construction permits narrow contact area that insures faster removal of metal or the cleaning and smoothing of broad areas. These operations can be accomplished without loss of grinder power or cutting speed.

The wheel retains its original thickness throughout its productive life and cannot wear thin at the edges. The narrow face contact area reduces heat build-up, resulting in cool cutting action and lessening the possibility of heat cracks and breakage, even as faster cutting speeds. The wheels are available in 7-in. and 9-in. stock sizes.

**American Emery Wheel Works, Red Bridge, Providence, R. I. (Item 318)**



## Goggle Package

The colorful outside package of the Eyegard safety goggle box holds 12 individual boxes of goggles and provides for easy identification of contents. Before the package is placed on a shelf or in a bin, the perforated box-ends are torn off, leaving openings showing the ends of the inside packages.

The packaged goggles have double protection, the contents are readily identified, and inventory is simplified.

**American Industrial Safety Equipment Co., Inc., 3500 Lakeside Ave., Cleveland 14, Ohio (Item 319)**





## Plastic Safety Hat

A molded high-impact plastic safety hat with an adjustable all-plastic suspension is said to exceed Federal Government specifications.

The helmet has a suspension that can be adjusted exactly to head sizes from 6 $\frac{3}{4}$ -in. to 7 $\frac{3}{4}$ -in. The suspension comes in two parts, both replaceable, and a detachable sweatband, also replaceable. The headband fits snugly. The hat is available in gray, white and yellow.

**Davis Emergency Equipment Co., 45 Halleck St., Newark, N. J. (Item 320)**



## Shut-Off Mechanism

A shut-off device, which operates on a new principle does not depend on water to activate itself. The device is for wet pickup machines. The action of deflected high-velocity air and dissipated water along the

sides of the unit breaks up and holds down soap suds, and limits soap-suds-producing action as in other machines.

This is achieved by deflection of upward exhaust air and water, which diverts exhaust air horizontally through four channels of the shut-off mechanism out and down along the inside walls of the cleaning machine. As the water level rises, exhaust air takes a path upward, creating an increase in negative pressure, thus pulling the float up for positive closure and complete stoppage of the motor by virtue of closing air off to the motor.

The mechanism is bolted directly to the cleaning machine, eliminating the chance of setting the machine into operation with or without the float when full to capacity.

**Nobles Engineering & Mfg. Co., 645 E. Seventh St., St. Paul 6, Minn. (Item 321)**



## Seamless Finger Guard

This guard protects the workman's injured fingers but does not interfere with dexterity.

It may be worn comfortably over a light bandage, and shields the finger or thumb from painful contact, but does not make it useless.

For More Information—Circle Item Number on Reader Service Postcard

National Safety News, August, 1959

It can be removed and replaced, is lined with absorbent cotton, and is available in open and closed-end models. A strong flexible plastic allows the finger guard to avert light finger cuts and injuries in such jobs as assembling, electrical spotting and handling of small parts.

**Advance Glove, Mfg. Co., 901 W. Lafayette Blvd., Detroit 26, Mich. (Item 322)**



## Hydraulic Rescue Equipment

M-S-A Porto-Power hydraulic equipment is designed for fast

extrication of victims trapped in various accidents.

Power "multiplication" of equipment is provided by the combination of a hand-powered hydraulic pump connected to a hydraulic ram by a long, flexible hose. Manual pressure on the pump handle can produce up to 20 tons of power applied to rescue operations.

Attachments for this equipment make it adaptable for any rescue problem. It can brace tunnel walls, open smashed vehicle doors, raise industrial equipment or heavy vehicles, and spread jammed openings.

The long hose attachment between the pump and the ram enables rescuers to work a safe distance from trapped victims without excessive risks from falling objects or debris. Hydraulic power eliminates the need for auxiliary units, and permits rescuers to work near gas or fumes, where cutting tools, such as acetylene torches, cannot be used.

The equipment is packaged in three sets: 4-ton for light duty, 10-ton for general duty, and 10 and 20-ton for heavy duty.

**Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh 8, Pa. (Item 323)**



## Custom-Made Industrial Gloves

Workers with unusual fitting problems can obtain specially-made gloves to provide freedom of movement and sensitivity.

Special molds are made from outline drawings of the worker's hands, or a plaster of paris cast is made by physician. The gloves are made on these molds, labeled with the individual's name and kept on file for his use.

There is a fee for design and preparation of the special mold, but the custom-made gloves are supplied at regular cost.

**The Pioneer Rubber Co., 296 Tippin Road, Willard, Ohio (Item 324)**

## Fluorescent Safety Paints

Hi-Viz fluorescent safety paints are designed for danger areas. The paints cannot blend in with the surrounding background colors, and maintain a high visibility factor indefinitely indoors when used on fire protection apparatus, flammable liquid containers, danger signs, emergency stops on machines, hazard switches, stairway treads, and other safety applications.

Safety coatings act as a safety reminder when painted on danger areas. Eight colors are available: red-orange, yellow-orange, red, pink, cerise-red, gold-yellow, lemon-yellow and green. Purple, a special color, is also available and recommended for radiation hazard markings.

**Lawter Chemicals, Inc., 3550 Touhy Ave., Chicago 45, Ill. (Item 325)**



**Drum Lifting Hook**

No. 41M drum-lifting hook is a cast hook made of non-sparking manganese bronze and is connected to a 3-in. diam-

eter bronze ring with a double 7/16-in. diameter brass rod. The non-sparking hook is designed for handling drums of volatile liquids in hazardous areas.

Attached to any type of hoist by a ring, the hooks are engaged over each end of the drum for safe movement. The hooks have clearance for a 3/4-in rim and will accommodate standard 55 gal. drums, as well as drums up to 34 in in length. The capacity of the drum-lifting hook is 1,000 lbs.

**Morse Mfg. Co., Inc., 722 W. Manlius St., East Syracuse, N. Y. (Item 326)**



**Display Unit**

Model 60 adds impact to poster and news-picture

programs. The model features engineered lighting of safety, quality and waste-reduction displays that intensify employee interest.

The display unit is provided with a complete visual program on safety, and is general and specific in its coverage. It features an at-unit switch and long-life lights.

**Elliott Service Co., Inc., 30 N. MacQuesten Parkway, Mount Vernon, N. Y. (Item 327)**



**Spray-On Disposable Walls**

"Boothguard" disposable walls can be sprayed on and stripped off.

"Boothguard W" is a water-base, non-flammable, non-toxic material. It will not support combustion in its liquid form or when adhering to a wall. It can be used for coating walls and ceilings with a water-base plastic film which can be peeled.

It can be applied by standard pressure-type spray equipment or by brush. Since no fire hazard exists, the product can be safely stored in any area of a plant or laboratory.

One application of "Boothguard W" is to line flow-coaters in automobile manufacturing plants. Flow-coaters are long tunnels that have little or no ventilation; yet the product is applied with no health or fire hazards to the applicator. The product can be applied and removed with little difficulty.

**Guard Coatings Corp., 8-05 43rd Ave., Long Island City 1, N. Y. (Item 328)**



**Full-Face Goggle Respirator**

A combination goggle-respirator, the "Drednaut," features a one-piece, mask-like

goggle respirator combination molded from flexible rubber. An internally molded ridge separates the goggle section from the respirator section. The result is double facial seal that stops exhaled air from reaching the goggle section. This feature is useful, when working in highly toxic areas.

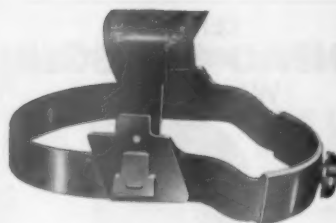
The goggle contains an impact-resistant .060-in.-thick acetate lens, and the mask is constructed of flexible rubber and conforms to the contours of the face.

In one model series, goggle ventilation is provided for by 16 grommet-type openings. These openings are covered with a fine stainless steel mesh screening designed to shunt liquids and dusts from the eye area. A gas-tight model series is also available without ventilation ports.

The respirator section features a twin cartridge combination. Thirteen sets of cartridges and filters are available for protection against dusts, mists, fumes, gases, sprays, vapors, radioactive particulate matter or combinations of these hazards. The Drednaut mask is lightweight and fits over all types of personal glasses. The Drednaut mask is available in 26 different combinations.

**American Optical Co., Safety Products Div., Southbridge, Mass. (Item 329)**

For More Information—Circle Item Number on Reader Service Postcard



### Headgear

The Hed-Rite headgear is designed to conform to any head size and adjusts for over-all strap length and for

overhead strap position.

A turning rear knob provides head-size adjustment by ratchet action. The ratchet cannot be stripped by normal use, because excessive tension results in slipping action, which will not damage the ratchet or teeth.

The cross strap pivots back and forth. Four holes in each end of the strap permit positioning strap lengths to conform to any crown height or head contour. The headband design has the curves and opposing cambers to produce broad contacts for comfort.

This headgear can be worn with any face shield, helmet, hood or goggle equipped with the manufacturer's X-14 brackets. The non-shrinking, non-warping headgear is detachable from a helmet or shield without use of tools. It is interchangeable with hard hats, and is said to be 20 to 25 per cent lighter than previous headgears.

**Chicago Eye Shield Co., 2705 Roscoe St., Chicago 12, Ill. (Item 330)**

For More Information—Circle Item Number on Reader Service Postcard

## NEWS ITEMS

### Alan Wood Steel Co.

A new district sales office has been opened in Boston at 824 Boylston St., Chestnut Hill. The office will be under the direction of Edward H. Lloyd, Jr., as district manager.

Lloyd was formerly president of Edward H. Lloyd and Son, which has represented Alan Wood in the Boston area for the past 20 years.

The Boston office will service several East Coast states with a complete line of hot and cold rolled sheet and strip, hot rolled carbon plate, A. W. Algrip and A. W. Super-Diamond floor plate.



G. G. Dickson

### Standard Safety Equipment Co.

George G. Dickson has been elected by the board of directors to vice-president of this manufacturer and distributor of safety equipment. He will be in charge of national distribution from the company's home office in Palatine, Ill.

### Hy-Test Safety Shoe Division

Victor Girolami has been assigned as a sales representative for the territory of lower Michigan. He has been with the company since 1953, and was formerly sales representative in Wisconsin and upper Michigan.

Robert Cary has added Michigan and Wisconsin to his Iowa-Minnesota sales territory. Gerolami will be at 600 Michigan Building, Detroit, and Cary will headquarter at 4926 Royal Oaks Drive, Hopkins, Minn.

### National Disinfectant Co.

The name of this Dallas, Tex., manufacturer and distributor of sanitary and maintenance chemicals has been changed to the National Chemsearch Corporation.

The corporate executives changed the name, since disinfectants are a small portion of the company's volume.



L. R. Doty

### A. Schrader's Son

Lawrence R. Doty has been appointed industrial sales promotion manager for this division of Scovill Mfg. Co., Inc.

He will be responsible for national sales promotion, working with distributors and industrial representatives. He has a

background of pneumatic product automation in varied industries in increasing production, reducing operating costs and reducing operator fatigue.

He has been with the organization for four years, and has been industrial southeastern sales representative for the past three years.

### Pagel Safety Products, Inc.

Fred W. Henschel has joined this Milwaukee firm as a sales representative. He formerly was in the safety department of Allis Chalmers and at Ampco Metal was safety director.



R. Lassell

### The Gamewell Co.

Robert Lassell has been named sales manager for municipal fire alarm and signal systems of this Newton Upper Falls manufacturer of municipal and industrial fire alarm system and other related items.

He formerly was regional manager of the central region, Chicago. He will direct the

sale of the company's municipal fire alarm and police signal systems.

### The Flintkote Co.

Melvin W. Rippe has been appointed district manager for the flooring and adhesive div. for this New York City-based organization. Rippe's territory will cover Oklahoma and the northwest counties of Texas. His headquarters will be in Tulsa, Okla.



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ALL DIRT with it. Leaves  
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**\$1.05 WHITESIDE  
APRON  
KEEPS  
CHEMICALS  
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Perfect for less concentrated corrosive chemicals. This 24" x 35" apron weighs less than 8 oz. . . . fits neatly, no bulging at top. Stands up even under frequent and severe laundering. Comfortable, convenient, safe and attractive.

Order a trial half-dozen today  
.... SD 3281.

Only \$4.30 for six plus postage.

**Standard Safety Equipment Company**  
431 N. Quentin Road, Palatine, Illinois

## Wire from Washington

—From page 31

1959). FAA warned of diligent enforcement of this regulation, because of "the need for reducing our near-miss hazard."

CAB amended its procedural regulations to permit air carrier associations to participate in safety proceedings.

**Marine safety.** The Coast Guard issued, in final form, its amended regulations concerning the transportation or storage of explosives or other dangerous cargoes on board vessels. The amendments were designed to provide that the Coast Guard's regulations governing the water transportation of certain dangerous cargoes be as nearly parallel as practicable with the ICC's regulations governing the land transportation of the same commodities.

The Coast Guard also amended its regulations to permit workers on offshore artificial islands and fixed structures the same option granted to workers on inspected vessels to wear unicellular plastic foam buoyant work vests. It also issued in final form its regulations regarding the markings of lifeboats, effective Jan. 1, 1961, and regarding specifications, design, inspection and servicing of inflatable life rafts.

**Farm safety.** The U. S. Department of Labor announced stricter safety requirements governing the short-haul transportation of Mexican farm laborers brought to the United States under a migrant labor agreement with Mexico.

According to the new rules, employers are responsible for the safe transportation of Mexican workers. Employers must see to it that only competent and qualified persons drive vehicles transporting workers, that such vehicles and equipment must meet reasonable safety standards and that proper precautions are exercised to safeguard such workers on the way to and from their jobs.

In announcing the new requirements, the Secretary of Labor said that such transportation for Mexican nationals was "generally inadequately covered by State laws."

## KENNEDY HEAD SNUGGER Winter Liners



### ESSENTIAL for outdoor workmen

Kennedy Head Snuggers, as liners under safety hard hats provide the necessary protection against cold, wintry blasts. Made of strong, sanforized materials, completely washable. Hold their shape and color. An outstanding buy in winter liners.

#### Tops in Warmth

#### Comfort and Safety!

The Original and Only "Head Snugger"

**SPECIAL MODELS for LINEMEN**  
with Molded nylon KLIKON buttons  
—no metal parts.

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3735 NORTH 35TH STREET  
MILWAUKEE 16, WISCONSIN

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### SANI-DRI ELECTRIC HAND DRYERS

- ★ Automatic 24 Hr. Service
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**Faster Drying!**  
Abuse-Proof  
Aluminum  
Nozzle and  
Push Bar!

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1089 COMMONWEALTH AVE. • NORTH CHICAGO, ILL.

Circle Item No. 88—Reader Service Card

National Safety News, August, 1959



# TRADE PUBLICATIONS

These trade publications will keep you up-to-the-minute on new developments in safety equipment and health products. All catalogs are free, and will be sent without obligation. Just circle publication number on the Reader Service Postcard.



## "Electronic Sentry" Safety Device

Bulletin B-74 describes the Joy Electronic Sentry mine safety device. The Electronic Sentry is a two-unit system for protection against ground faults and short circuits on d.c.-operated off-track mining machines and their trailing cables. The bulletin contains data on the Electronic Sentry, including schematic diagrams and detailed explanation of the system, general electrical specifications and ordering information. Joy Mfg. Co., Electric Products Division, 1201 Macklind Ave., St. Louis 10, Mo.

For more details circle No. 400  
on enclosed return postal card.

## Fireproof Clay Flue Lining

Standard recommendations for safe chimney construction, with drawings and ASTM specifications, are in a 6-page bulletin offered by the Clay Flue Lining Institute, 161 Ash St., Akron 8, Ohio. The bulletin describes Clay Flue Lining in chimney construction, explains how clay flue lining makes homes and buildings fire-safe. According to the manufacturer, clay flue lining is adaptable to any fuel—oil, gas, coal or wood.

For more details circle No. 401  
on enclosed return postal card.

## Detecting Radioactivity

Latest edition of the NMC Fallout, a publication of Nuclear Measurements Corp., 2460 North Arlington Ave., Indianapolis 18, Ind., describes the firm's two newest instruments for detecting radioactivity. Featured are the AM-33R air monitor, and the GA-2 gamma alarm system. The air monitor permits immediate identification of long half-life predominantly alpha and beta emitters, as collection of airborne particulates takes place. The gamma alarm is the first system of its kind that eliminates the central power supply.

For more details circle No. 402  
on enclosed return postal card.

## Barricades

The Traffic Equipment Company, Dept. 4-D, 2064 South Bannock, Denver 23, Colo., has made available a catalog illustrating all-steel barricades and traffic control products. Also shown are Tripod Warning Units that have low center of gravity to withstand strong gusts. Utility Manhole Guard and Tripod Units for telephone, telegraph, electric and gas utility companies and flashing lights are featured.

For more details circle No. 403  
on enclosed return postal card.

## Acroflex

Bulletin A-857 illustrates and describes how "Acroflex," a formative steel strapping can be used for fabricating guards on all dangerous points of moving machinery, punch presses, dies, belts. Acro Metal Stamping Co., 332 E. Reservoir Ave., Milwaukee 12, Wis.

For more details circle No. 404  
on enclosed return postal card.

## "Ready-To-Lay" Flooring

The Monroe Co., Inc., 10703 Quebec Ave., Cleveland 6, Ohio, has made available a bulletin that describes a new type of "Ready-to-Lay" flooring claimed to outwear concrete. Sold as Nu-Floor, it is suitable for indoor application over concrete, wood or metal—new or old. Available in ready-made sheets, 2 by 3 ft. for easy handling. This flooring lays over old floor like tile. Available in attractive black, it is non-slip and comfortable to walk on.

For more details circle No. 405  
on enclosed return postal card.

## Germicidal Cleaner

Brochure WC-1724 describes a detergent sanitizer designed for maximum cleaning effectiveness with minimum cleaning effort in industrial plants. The brochure describes the killing effect of Whistleclean D-130 on gram positive and gram negative bacteria, odor-breeding bacteria and its aid in overcoming action of anti-biotic resistant strains of staphylococcus aureus, a threat to public health. A section of the brochure describes the types of disease, odor-breeding germ life, fungus and algae which Whistleclean D-130 attacks. Also it includes a report of bactericidal efficiency tests by an independent laboratory. The Whistleclean Corp., 404 Fourth Ave., New York 16.

For more details circle No. 406  
on enclosed return postal card.

## Inhalation Therapy in Industry

A 12-page booklet NM-116, NCG Oxygen Therapy in Industry, describes equipment and techniques for resuscitation. It describes the NCG line of portable resuscitators, including the Black Pack model, worn on the back and leaving the rescue worker's hands free while aiding a victim; the Monaghan intermittent positive pressure breathing unit for prevention and treatment of industrial respiratory disorders; and oxygen piping systems for plant hospitals and first-aid areas. National Cylinder Gas, Div. of Chemerton Corp., 840 N. Michigan Ave., Chicago 11.

For more details circle No. 407  
on enclosed return postal card.

## Brick Floor Repair Made Easy

The repair of joints in worn or corroded brick and tile floors is reduced to seven steps in this Master Builders Company bulletin. Each step in the procedure is explained and illustrated. Bulletin shows how Embeco Non-Shrink Mortar will produce tight joints and lower maintenance costs for brick and tile floors. The Master Builders Co., Cleveland 3, Ohio.

For more details circle No. 408  
on enclosed return postal card.

## Grating and Treads

Safety, visibility, permanence, and easy maintenance are open flooring for industrial and public works applications described in booklet No. 2527-R, available from Grating Dept., Blaw-Knox Co., Blawnox P. O. Box 1108, Pittsburgh 30, Pa. The literature describes or illustrates use of open flooring—or electroforged grating—in many industries, including steel, power, railroad, paper, chemical, truck and automobile. Information includes types and spacing, bearing bar surfaces and weights, fastening methods, and safe loads for electroforged carbon steel and aluminum interlock grating. Stair treads are also described and illustrated in the bulletin.

For more details circle No. 409  
on enclosed return postal card.

## Chain Link Fences

Data and information on the Page Registered Fence, is contained in a 4-page Bulletin DH-8, issued by the Page Steel and Wire Div., American Chain & Cable Co., Inc., Monessen, Pa. These fences are offered in styles to enclose, protect or beautify residential, industrial, institutional areas. Fabrication details, styles, heights, and typical installation photographs have been included.

For more details circle No. 410  
on enclosed return postal card.

## Heavy Duty Ladders

A new booklet, The Importance of Rung to Rail Construction on Industrial Aluminum Ladders, has been made available to safety directors, purchasing agents, and others interested in the construction of heavy duty ladders by the Louisville Ladder Co., 1101 W. Oak St., Louisville 10, Ky. The booklet describes methods used in manufacture of metal ladders for industrial use.

For more details circle No. 411  
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## Scaffold Safety

Brochure provides safety procedures and maintenance instructions in construction.

tion and care of scaffolding equipment. It offers a pictorial, step-by-step, review of the proper, safe way to set up scaffolds. Aluminum Safety Products, Inc., P. O. Box 580, Greenville, Pa.

For more details circle No. 412  
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### Powered Cleaning Equipment

Illustrated catalog gives specifications for plant and floor maintenance equipment, including mop trucks, floor scrubbers and vacuum units, cleaners, waxes and combination floor machines. Finnell System, Inc., 800 East St., Elkhart, Ind.

For more details circle No. 413  
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### Storage Battery Chargers

Bulletin, introducing silicon-rectifier charges for use with stand-by batteries, features a chart for determining the correct size and model for specific applications. Tabulating information on 27 models, the chart enables users to select equipment according to number of cells to be charged, output amperage and input voltage, etc. Specifications given. Electric Storage Battery Co., Exide Industrial Division, Rising Sun and Adams Ave., Philadelphia 1, Pa.

For more details circle No. 414  
on enclosed return postal card.

### Resilient Floor Maintenance

A 6-page bulletin, designed for reference filing, offers pointers on the proper treatment and maintenance for asphalt, linoleum, rubber, vinyl and other resilient floors. Maintenance steps are illustrated. Hillyard Chemical Co., 402 N. 3rd St., St. Joseph 1, Mo.

For more details circle No. 415  
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### Foot Protection

Booklet, a source of information for the safety engineer and lecturer, describes and illustrates the development of the modern steel safety toe. Tests determining the effectiveness of these guards are included, e. g. impact and compression tests. Safety Box Toe Co., 812 Statler Bldg., Boston.

For more details circle No. 416  
on enclosed return postal card.

### Welder's Gloves

Data sheet illustrates reversible Welder's gloves. A single glove is designed to fit either hand. Gloves feature welded, non-exposed seams for safety. Singer Glove Mfg. Co., 860 Weed St., Chicago.

For more details circle No. 417  
on enclosed return postal card.

### Plastic Goggles

Brochure spotlights chippers and welders goggles, spectacles and eye shields, all of lightweight plastic. Equipment is designed to be worn over regular prescription glasses. Tinted lenses and side shields are available. Fulmosan Safety Equipment Corp., 644 Pacific St., Brooklyn 17.

For more details circle No. 418  
on enclosed return postal card.

### Industrial Work Gloves

Catalog presents industrial work gloves to offer protection against most major industrial hazards. A chart diagrams various types of glove patterns and cuff styles for reference. Highlighted is a program enabling safety personnel to order gloves imprinted with one of various safety messages. Riegel Textile Corp., 260 Madison Ave., New York 16.

For more details circle No. 419  
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### Stretchers

Catalog illustrates stretchers to help plants meet first aid and medical emergency.

encies. Units facilitate the transfer of injured patients. Multi-level stretchers are designed to raise and lower patients without use of complicated springs or levers. Units lock automatically for safety. Bomgardner Mfg. Co., 1384 Hird Ave., Cleveland 7, Ohio.

For more details circle No. 420  
on enclosed return postal card.

### Ear Valves

Data Sheet describes ear valves that regulate the passage of sound. The unit obstructs and dissipates harmful energy components of loud, large volume noise, and permits hearing of ordinary conversation and audible warnings. Sigma Engineering Co., 1491 N. Vine St., Los Angeles 28.

For more details circle No. 421  
on enclosed return postal card.

### Safety Pliers

Safety Plier Catalog describes a safety tool, designed to protect workers fingers as well as expensive dies and other equipment. The pliers are made of an aluminum alloy which will flatten but not shatter, if accidentally dropped into the die. This tool cannot affect the die. Osborn Mfg. Corp., Warsaw, Ind.

For more details circle No. 422  
on enclosed return postal card.

### Bulletin Boards

Brochure outlines metal and wood frame, cork-backed and changeable letter bulletin boards. These effectively display safety messages, posters, directory notices and inter-plant communications. Units have locks to prevent tampering. A. C. Davenport & Son, Inc., 311 N. Desplaines St., Chicago.

For more details circle No. 423  
on enclosed return postal card.

### High Visibility Warning Flags

Data Sheet introduces a fluorescent plastic-impregnated nylon safety flag for use by truck fleets, highway departments and school safety patrols. The flag can be seen clearly at night. The fabric may be easily cleaned and will not absorb dirt or grease. Davis Emergency Equipment Co., Inc., 45 Hallack St., Newark 4, N. J.

For more details circle No. 424  
on enclosed return postal card.

### Revolving Warning Lights

Bulletin outlines industrial revolving warning lights to signal moving material hazards, suspended loads, open shafts. They can also be incorporated into automatic production processes to indicate start, stop, or deviation from the normal. Models are also available for automotive installation. Federal Sign and Signal Corp., 8725 S. State St., Chicago 19.

For more details circle No. 425  
on enclosed return postal card.

### Eye Wash Fountains

Brochure spotlights emergency showers and eye wash fountains. Units may help to save eyesight in event of splashing spilled chemicals and similar accidents. Eye wash fixtures also help to relieve eye fatigue due to strain, heat, smog or fumes. Speakman Co., 30th & Spruce Sts., Box 191, Wilmington 98, Del.

For more details circle No. 426  
on enclosed return postal card.

### Fire Retardant Paints

Brochure introduces fire retardant paint, applied like ordinary paint, which reduces fire hazards and localizes interior fires. Available in various colors, the paint may be safely washed and scrubbed without losing effectiveness. Albi Mfg. Co., Dept. NS, Rockville, Conn.

For more details circle No. 427  
on enclosed return postal card.

### Industrial Trucks

The "Walkie or Rider Trucks" brochure gives the pros and cons for both the Walkie and Rider-Type Industrial Trucks and how they are used in industry. Advantages and applications for both types of trucks are outlined, along with a convenient check list giving facts to consider when analyzing truck requirements. Illustrations show how both the Walkie and Rider-Type Trucks fit into a wide variety of material handling programs. Automatic Transportation Co., 149 W. 87th St., Chicago 21, Ill.

For more details circle No. 428  
on enclosed return postal card.

### Combination Chain and Cable Binder

The Acco Combination Chain and Cable Binder assembly, developed to meet the demand of the loggin trade for a lighter and stronger binder but equally suited for other types of loads, is described in an informative two-page Bulletin DH-146-A. The bulletin lists specifications of the three Acco Products that are combined to make up the binder; acco high test chain, which is heat-treated for high tensile strength; acco preformed improved plow steel wire rope; and the Tru-Loc swaged rope ending which retains full 100 per cent wire rope strength. In addition, the bulletin gives rope diameters and binder lengths, list price of each assembly and approximate weight in pounds. American Chain and Cable Co., Inc., Bridgeport 2, Conn.

For more details circle No. 429  
on enclosed return postal card.

### Floor Matting

Probably the first "blueprint" of all floor matting applications for industry has just been developed by American Mat Corp., 1724 Adams St., Toledo 2, Ohio. Profusely illustrated, the brochure contains a detailed description of all types of safety, comfort, and scrapeage types of matting. It includes a floor plan of a typical industrial plant with indications of the proper product for use in entrances, offices, reception room, shop areas, locker and shower rooms and lounges, loading docks, cafeterias, and kitchens.

For more details circle No. 430  
on enclosed return postal card.

### Safety Idea Book

Switzer Bros., Inc., 4732 St. Clair Ave., Cleveland 3, Ohio, have made available a free booklet showing various ways to reduce accidents with the use of Day-Glo safety paint.

For more details circle No. 431  
on enclosed return postal card.

### Portable Warning Light

A new, compact, portable warning light has been introduced by the North American Signal Co., 220 S. State St., Chicago 4. Named the "Junior Action-Lite," it is designed for fire, police, ambulance, civil defense, and other purposes. Equipped with a 100-candlepower bulb and a continuous duty motor, it revolves 360° and flashes 90 times a minute.

For more details circle No. 432  
on enclosed return postal card.

### Gratings, Partitions

Two catalogs: No. 5911 (24 pages) describes safety Grip Strut Grating in one-piece construction, and welded grating. A four-pager covers expanded metal partitioning with Quick-Erect fitting. The Globe Co., 4000 S. Princeton Ave., Chicago 9, Ill.

For more detail circle No. 433  
on enclosed return postal card.

## Safety Switches for Hoists

Switch that automatically stops a hoist or crane before it's overloaded is described in Bulletin 17-E (4-pages). Shows models and attachments; also load limiting applications. W. C. Dillon & Co., Inc., 14620 Keswick St., Van Nuys, Calif.

For more details circle No. 434  
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## Uniforms

Comfortable uniforms for summer wear for plant firemen and watchmen are included in a new catalog offered by Art Barnett Uniform Co., P. O. Box 322, New Orleans 9, La. Line includes attractively-styled men's and women's wear. Sizes and prices are listed. Illustrations give you a good idea of how uniforms will look.

For more details circle No. 435  
on enclosed return postal card.

## Safety Ladders

An entire line of safety ladders is illustrated and described in a new catalog offered by W. W. Babcock Co., Inc., Bath, N. Y. Construction details, safety features and dimensions are listed. In addition, accessories such as spurs, shoes, jacks, and locks are included in the coverage.

For more details circle No. 436  
on enclosed return postal card.

## Plaques, Emblems and Incentive Awards

Catalog No. 519 deals in the extensive line of plaques, emblems, and incentive awards manufactured by Williams Jewelry & Mfg. Co., 10 South Wabash Ave., Chicago, Ill. Prices are included. You're sure to get some useful ideas on safety promotion from this booklet.

For more details circle No. 437  
on enclosed return postal card.

## Badges

Badges for every conceivable need—for municipal or plant firemen and policemen—are included in literature available from C. G. Braxmar Co., Inc., 216 E. 45th St., New York 17, N. Y. Many styles are illustrated; prices are listed. Emblems and lettering can be modified to fit your specific needs.

For more details circle No. 438  
on enclosed return postal card.

## Communications Buyers' Guide

Motorola Communications and Electronics, Inc., 4501 W. August Blvd., Chicago 51, has announced the 1959 edition of its *Communications Buyers' Guide*. Considerably enlarged from previous issues, it is a profusely illustrated catalog of two-way communications equipment and accessories.

For more details circle No. 439  
on enclosed return postal card.

## Emergency Lighting

K-S Marine Products, Inc., Oakville, Conn., describes its line of battery-powered, portable, and fixed emergency lighting in a new catalog, No. 100. Included are sealed-beam spotlights, searchlights, dual-beam search and floodlights, car and truck beacons, reflectors, and highway flares.

For more details circle No. 440  
on enclosed return postal card.

## Fire Alarm Systems for Schools

The Autocall Co., Shelby, Ohio, has published a folder on its Type SA Fire Alarm Systems for schools. An important advantage of the system, according to the Autocall Co., is the double supervision feature. The folder also covers fire alarm boxes, alarm bells, and horns.

For more details circle No. 441  
on enclosed return postal card.

## New Principle in Fire Detection

Catalog MC-107-D and Bulletin No. MC-108 discuss Detect-A-Fire rate-compensation actuated fire detection units, which react accurately and positively when surrounding air temperature reaches a predetermined danger point, regardless of rate of air temperature rise. Fenwal, Inc., 282 Pleasant St., Ashland, Mass.

For more details circle No. 442  
on enclosed return postal card.

## Stops Rust—Free Sample

A 36-page catalog shows color and applications of a protective coating that stops rust as it decorates, is easy to apply by brush or spray, and resists sun, moisture, weathering, rain and snow. Rust-Oleum Corp., 2674 Oakton St., Evanston, Ill.

For more details circle No. 443  
on enclosed return postal card.

## Weed Control

An up-to-date booklet on weed control discusses S. S. Weed Killer, a soil sterilant that kills weeds and prevents them from growing. C. B. Dolze Co., Westport, Conn.

For more details circle No. 444  
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## Protective Apparel

A complete and comprehensive catalog covering the largest selection of protective apparel available on the market is available from Wheeler Protective Apparel, Inc., 224 W. Huron Street, Chicago 10, Illinois. It illustrates and describes: gloves, coats, pants, overalls, jumpers, fire entry units, finger cots, hand pads, arm and leg protectors, hip leggings, spats, knee pads, sleeves, hoods, helmets, aprons, leggings, chaps, blankets, curtains, power megaphones and many other items related to industrial protection. This catalog is so organized that it may be used as a safety handbook. The catalog is completely illustrated with photographs of every type of clothing required by the heat, abrasive or chemical industries.

For more details circle No. 445  
on enclosed return postal card.

## Tuffy Sling Handbook

A fully illustrated 40-page reference book that covers more than 80 subjects on Tuffy Slings and fittings is now being offered by the Union Wire Rope Corporation, 2224 Manchester Avenue, Kansas City 26, Missouri. Included in the new edition is new reference information condensed into handy chart form on sling types, dimensions and rated loads. In addition, the section Tuffy Sling fittings has been expanded to cover many fittings not previously shown, together with reference charts on sizes, rated loads, etc.

For more details circle No. 446  
on enclosed return postal card.

## Tower Ladder Safety Device

Folder describing use of tower ladder safety device for workers who climb. Especially adapted for use on poles, building, radio and television towers, tanks, derricks or any other high place. Device consists of belt and locking mechanism. Also described and illustrated are tapered steel Lighting Tubes for area and flood-lighting for: railroad yards, trucking terminals, parking lots, swimming pools, etc. Meyer Machine, Inc., Red Wing, Minnesota.

For more details circle No. 447  
on enclosed return postal card.

## Acid Resistant Apparel

Well illustrated catalog displays acid-resistant work clothes in Dacron, Orlon, Dynel and wear blends. Includes tests and chart demonstrating the superior quality

and economy of this apparel. Enclosed with the catalog is a swatch folder with actual swatches established for testing. Worklon Inc., 153 W. 20th St., New York, N. Y.

For more details circle No. 448  
on enclosed return postal card.

## "Built-in" Protection Found in New Coating

An attractively designed brochure and accompanying bulletin introduces a new protective rubber coating. Its many uses in the home and industry, and its new formula are spotlighted. Application instructions and illustration complete the report. Charleston Rubber Co., 16 Stark Industrial Park, Charleston, S. C.

For more details circle No. 449  
on enclosed return postal card.

## Cold Cleaning Solvent

A new "safety in use" approach for evaluating the relative safety of solvents used in "cold cleaning" of metal parts is contained in a new technical report published by the Du Pont Electrochemicals Dept. The report establishes a new concept of a relative safety index for solvent evaluation based on maximum allowable concentration, vapor pressure, and evaporation rate of the solvents. Heretofore, there has been no good basis offered for relating these factors from an over-all "safety in use" standpoint. Results are confirmed by extensive testing of the atmosphere during "cold cleaning" operations using two commonly used solvents, perchloroethylene and methyl chloroform (1, 1, 1 trichloroethane). "Cold Cleaning" is a broad term applied to industrial cleaning operations where solvents or solvent mixtures are applied at room temperatures. Chlorine Products Section, Electrochemicals Dept., Du Pont Co., Wilmington 98, Del.

For more details circle No. 450  
on enclosed return postal card.

## Impregnated All-Weather Clothing

Full details, illustrations and line drawings of reinforcement features are contained in this new two-color bulletin. Head-to-toe, foul-weather protection is objective of this line of work garments which are polyvinyl chloride-impregnated for added protection and long life. Ideal for firemen, maintenance workers, guards, construction and pipeline workers, farmers, and gas, telephone and electric utility repairmen. Jomac, Inc., 6128 N. Woodstock, Philadelphia 38, Pa.

For more details circle No. 451  
on enclosed return postal card.

## Radiation Detection Instruments

A transistorized radiological survey meter measures low-level radiation for personnel and food and water checks. Three types of self-reading dosimeter pens permit an individual to keep continuously informed of radiation exposure in ranges 0-200 milliroentgens, and 0-20 and 0-100 roentgens. Literature gives full details. Universal Nansistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.

For more details circle No. 452  
on enclosed return postal card.

## Padlocks for Industrial Protection

Catalog 56, 20-pages features descriptions of padlocks to meet every need, with actual size illustrations of entire line. Special long shackle padlocks are included, as well as super security padlocks, which have an extra short shackle clearance of 1/4", and many others. Master Lock Co., Milwaukee 43, Wis.

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#### NEOPRENE NYLON HOOD

A nylon-coated fabric which is also suitable for protection against water and oil.

731-N - (shown) without supplied air  
732-N with supplied air

#### ACITEX HOOD

Transparent. All seams electronically sealed. Vinyl plastic window.

731-A without supplied air  
732-A - (shown) with supplied air

## Fiber/Glass Foundation speeds window and canopy replacement in New CESCO Acid Hoods

• From CESCO comes another safety equipment development to help you cut the cost of replacing the window and canopy in hoods used for protection against acid and caustics. CESCO has simplified this time-consuming maintenance job by developing a new fiber glass foundation which can be disassembled or assembled in minutes. Here's all you do: remove window frame and air-tight molded rubber gasket by releasing toggle locks on sides of foundation. Replace window in frame. Position holes in hood opening to match those in foundation opening. Set gasket and window frame in position and lock.



CESCO Acid Hoods also feature the new Hed-Rite Headgear which is adjustable three ways: for head sizes, for overall strap length, for overhead strap position.

The materials used in the new Acitex and Neoprene Nylon Hoods shown are durable and strain-resistant, yet flexible enough to permit freedom of movement. Air-supplied models have a discharge tube mounted on the headgear, which is fed by a hose from an air valve suspended at the waist.

See your CESCO distributor or write our Chicago office for prices and complete information about CESCO Acid-Resistant Hoods.

# CESCO FOR SAFETY



CHICAGO EYE SHIELD COMPANY  
2700 West Superior Street, Chicago 24, Illinois

Circle Item No. 18C—Reader Service Card



## PROOF OF PERFORMANCE!

### 6 Approvals on AO R5000 Series Respirators

AO R5000 Series Respirators have every approval available. The principle of one basic face-piece with quickly interchangeable cartridges means less inventory, more convenience, lower costs. Your nearest AO Safety Products Representative can supply you.

**R5090 "RED DEVIL" RESPIRATOR** — Approved by the U.S. Bureau of Mines for protection against Pneumoconiosis-Producing Dusts, Toxic Dusts that are not significantly more toxic than lead, Pneumoconiosis Producing Mists and Chromic Acid Mist. BM2174.

**R5051 RESPIRATOR** — Approved by the U.S. Bureau of Mines for protection

against Organic Vapors. BM2304.

**R5055 RESPIRATOR** — Approved by the U.S. Bureau of Mines for protection against Pneumoconiosis-Producing Dusts, Toxic Dusts that are not significantly more toxic than lead, Pneumoconiosis-Producing Mists, Chromic Acid Mist and Organic Vapors. BM2305.

**R5056 RESPIRATOR** — Approved by U.S. Bureau of Mines for protection against Pneumoconiosis-Producing Dusts, Toxic Dusts that are not significantly more toxic than lead, Pneumoconiosis-Producing Mists, Chromic Acid Mist and Metal Fumes that are not significantly more toxic than lead. BM2163.

**R5561 RESPIRATOR** — Approved by U.S. Bureau of Mines for protection against Pneumoconiosis-Producing Dusts, Toxic Dusts that are not significantly more toxic than lead, Pneumoconiosis-Producing Mists, Chromic Acid Mists, Metal Fumes that are not significantly more toxic than lead, and Organic Vapors. BM2311.

**R5058 RESPIRATOR** — Approved by U.S. Dept. of Agriculture for protection against highly toxic insecticides including Systox, TEPP, HETP, Parathion, Aldrin, Dieldrin, Endrin, Chlordane, EPN, Nicotine and Phosdrin.

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